

B.1.1

MAY 21 1982

5HW-TUB

Mr. David Lamm
Director, Land Pollution Control
Division
Indiana State Board of Health
1330 West Michigan St.
Indianapolis, Indiana 46206

Dear Mr. Lamm:

During this month, this office will continue to request Part B of the Resource Conservation and Recovery Act, as amended (RCRA) permit applications for certain types of existing hazardous waste facilities. Excluded at this time are facilities whose operations include any of the following processes:

- a) D 79 - Injection Well
- b) D 80 - Landfill
- c) D 81 - Land Application
- d) D 82 - Ocean Disposal
- e) D 83, S 04 & T 02 - Surface Impoundment
- f) T 03 - Incinerator

Facilities shown on the enclosure with this letter were selected from confirmed Part A records of operations. We will be happy to receive any recommendations you may have regarding additions or deletions to this listing. Since we are scheduled to begin sending letters to these facilities by the end of this month, please provide your comments by May 28, 1982, to Richard Shandross, the State Implementation Officer for your State. Although Part B application documents will be due six months after the date of our request, we will be requesting that facilities submit completed components of their applications as soon as practical.

Please do not hesitate to call me, or Mr. Shandross at (312) 886-6146, if you have any questions, or wish to discuss our initiation of the RCRA permit issuance process.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure

cc: Guinn Doyle

R. SHANDROSS:gigi:5HW-TUB:6-7444:3/23/82:Change of Date 5/14/82

TYRIST	AUTHOR	PEU	STU #1	STU #2	TPS	WMB	AHMD
gigi	He	CHIEF	CHIEF	CHIEF	CHIEF	CHIEF	DIRECTOR
INITIALS	DATE	DATE	DATE	DATE	DATE	DATE	DATE
5/14/82	5/14/82		5/14/82	5/20/82	5/24/82	5/20	

499

PROPOSED PART B CALL-... ST
INDIANA

1. AMOCO Whiting Refinery	IND074375585	S01, S02, T04
2. Eli Lilly & Co. Materials Center	IND000806919	S01
3. Fluids Engineering Corp.	IND099215923	S02, T01, T04
4. Ford Motor Company	IND001926013	S01, S02
5. General Electric Co.	IND000803726	S01
6. Hancha Industrial Waste Mgmt., Inc.	IND088737275	S01, S02, T01
7. Industrial Plating, Inc.	IND005421177	S01, S02, T01
8. Bendix Corporation	IND005461165	S01, S02, T01,
9. Red Spot Paint & Varnish Co.	IND990873499	S01, T01, T04
10. Reilly Tar and Chemical Corp.	IND000807107	S01, S02, S03 T01, T04

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CLOSED FACILITY
TSD ONLY

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FORM 1 GENERAL		U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION Consolidated Permits Program (Read the "General Instructions" before starting.)		I. EPA I.D. NUMBER	
EPA I.D. NUMBER		PLEASE PLACE LABEL IN THIS SPACE		F T N D 9 9 0 8 7 3 4 9 9 D	
II. FACILITY NAME					
FACILITY MAILING ADDRESS					
FACILITY LOCATION					
				GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.	

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column. If the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		YES	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1	SKIP	RED SPOT PAINT & VARNISH CO., INC.
---	------	------------------------------------

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2	T C BROWN MANUFACTURING MANAGER	8 1 2	4 2 8 9 1 5 2

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX		B. CITY OR TOWN		C. STATE	D. ZIP CODE
3	P O BOX 418	4	EVANSVILLE	IN	4 7 7 0 3

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER		B. COUNTY NAME		C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY (if known)	
5	9 6 6 - 1 0 1 6 E. COLUMBIA STREET	6	ANDERBURGH	7	EVANSVILLE	IN	4 7 7 1 1	N/K

VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
7	2	8	5	7		(specify)	N/A
(specify) Paints, Varnishes, Lacquers, Enamels, & Allied Products							
C. THIRD				D. FOURTH			
(specify) N/A				(specify) N/A			

VIII. OPERATOR INFORMATION

A. NAME												B. Is the name listed in Item VIII-A also the owner?			
RED SPOT PAINT & VARNISH CO., INC.												<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)															
F = FEDERAL				M = PUBLIC (other than federal or state)				P (specify)				D. PHONE (area code & no.)			
S = STATE				O = OTHER (specify)				A				8 1 2 4 2 8 9 1 0 0			
P = PRIVATE															
E. STREET OR P.O. BOX															
PO BOX 418															
F. CITY OR TOWN										G. STATE		H. ZIP CODE		IX. INDIAN LAND	
BEVANSVILLE										IN		4 7 7 0 3		Is the facility located on Indian lands?	
														<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)										D. PSD (Air Emissions from Proposed Sources)									
9 N N/A										9 P N/A									
B. UIC (Underground Injection of Fluids)										E. OTHER (specify)									
9 U N/A										9 N/A (specify)									
C. RCRA (Hazardous Wastes)										E. OTHER (specify)									
A I N D 9 9 Q 8 7 3 4 9 9										9 N/A (specify)									

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

MANUFACTURER OF PAINTS, VARNISHES, AND LACQUERS

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
C. D. Storms, President		Charles D. Storms		11-29-82	

COMMENTS FOR OFFICIAL USE ONLY

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FORM 3 RCRA	EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY HAZARDOUS WASTE PERMIT APPLICATION Consolidated Permits Program (This information is required under Section 3005 of RCRA.)	1. EPA I.D. NUMBER											
FOR OFFICIAL USE ONLY														
APPLICATION PROVIDED					DATE RECEIVED (yr., mo., & day)					COMMENTS				

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)														
<input checked="" type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)														
<input type="checkbox"/> 2. NEW FACILITY (Complete item below.)														
FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)														
FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN														
B. REVISED APPLICATION (place an "X" below and complete Item I above)														
<input checked="" type="checkbox"/> 1. FACILITY HAS INTERIM STATUS														
<input type="checkbox"/> 2. FACILITY HAS A RCRA PERMIT														

III. PROCESSES -- CODES AND DESIGN CAPACITIES

A. PROCESS CODE -- Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY -- For each code entered in column A enter the capacity of the process.

1. AMOUNT -- Enter the amount.

2. UNIT OF MEASURE -- For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINERS: (barrel, drum, etc.)	501	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	502	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	503	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	504	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
Injection Well	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY	ACRE-FEET	A	
LITERS	L	TONS PER HOUR	HECTARE-METER	F	
CUBIC YARDS	Y	METRIC TONS PER HOUR	ACRES	B	
CUBIC METERS	C	GALLONS PER HOUR	HECTARES	Q	
GALLONS PER DAY	U	LITERS PER HOUR			

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

1. DUP														
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99. 1														
100. 1														

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

T04 STEAM DISTILLATION 400 GAL/DAY

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included

EPA ID. NUMBER (enter from page 1)												FOR OFFICIAL USE ONLY											
W	I	N	D	9	9	0	8	7	3	4	9	9	1	W	DUP	2	DUP						

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE	A. EPA HAZARD. WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES											
	1	2	3	4			1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (If a code is not entered in D(1))					
1	F	0	0	3	559,000	P	T	0	4				Steam Distillation					
2	F	0	0	3														
3	K	0	8	1	16,660	P	T	0	1	D	8	0						
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IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)											
1	2	3	4	5	6	7	8	9	10	11	12

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)												LONGITUDE (degrees, minutes, & seconds)											
3	7	5	0	1	2	5						0	8	7	3	2	5	0	1				

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER												2. PHONE NO. (area code & no.)											
3. STREET OR P.O. BOX												4. CITY OR TOWN											
5. ST.												6. ZIP CODE											

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C. D. Storms	<i>Charles D. Storms</i>	11-29-82

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C. D. Storms	<i>Charles D. Storms</i>	11-29-82

Facility
Des & Maps

713

FACILITY DESCRIPTION

Facility Name: Red Spot Paint & Varnish Co., Inc.

Facility Contact: Tom Brown, Manufacturing Manager

Facility Mailing Address: P.O. Box 418, Evansville, IN 47703

Facility Address: 966-1016 E. Columbia Street, Evansville, IN 47711

The Facility is a 13½ acre site with 9 buildings; totaling 156,000 square feet.

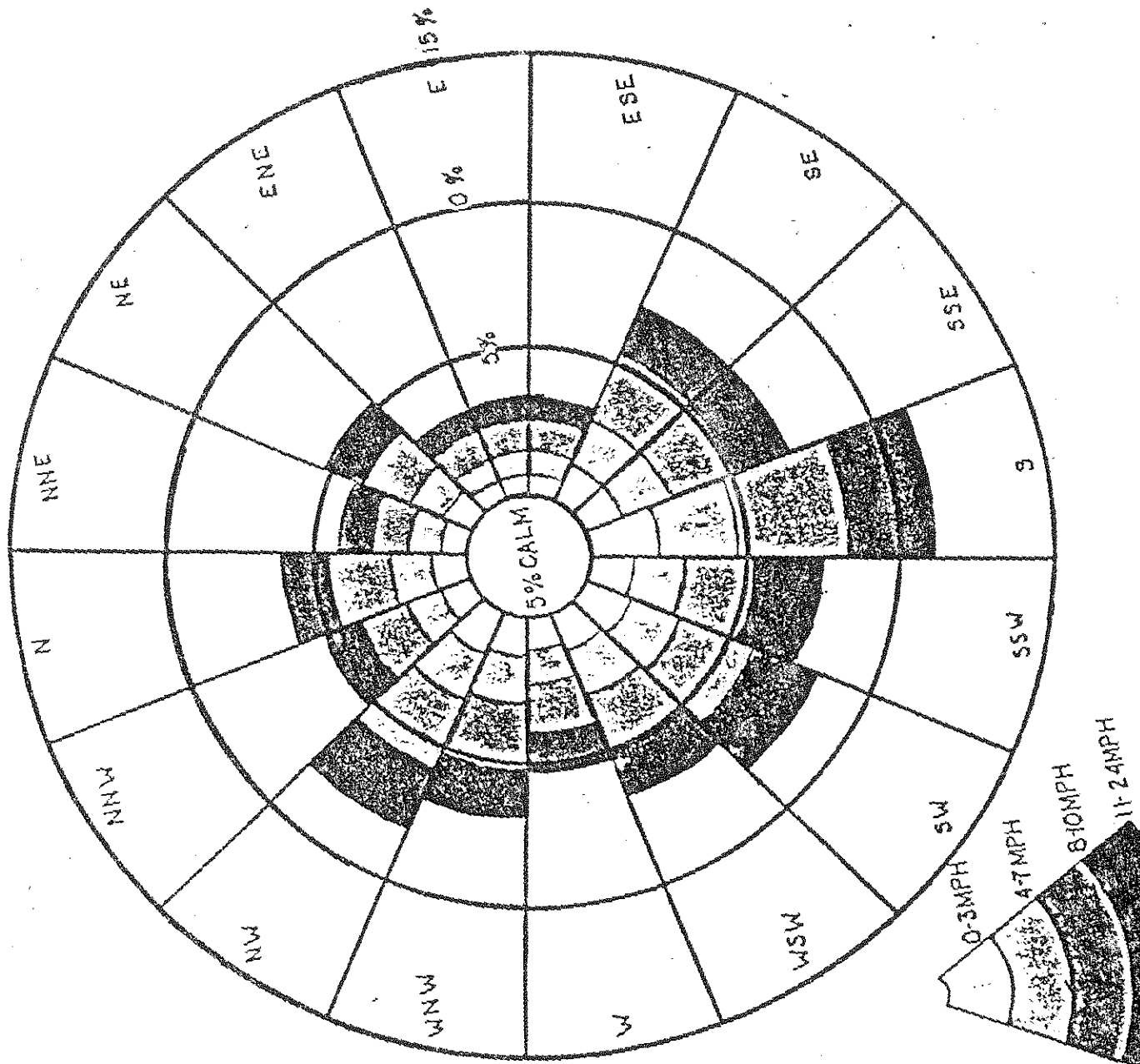
Eight of the buildings are devoted to the manufacture of paints and varnishes with the ninth housing a facility to cut and fabricate glass windows and store fronts.

The primary function of this facility is the manufacture of paints, lacquers, and varnishes; not the handling of hazardous waste.

The hazardous waste activity at this facility consists of container and tank storage of spent cleaning materials, the reclamation of spent solvent and the preparation of wastes for landfilling.

There is no differentiation in our Safety and Spill Control Programs between raw materials and hazardous waste since both are hazardous because of ignitability.

WIND ROSE FOR EVANSVILLE, INDIANA



TRAFFIC PATTERN

Access to Red Spot Paint & Varnish Co., Inc. is from Columbia Street by any of three drives.

All drives and parking lots are two way. The majority of auto traffic is confined to parking areas 1, 2, and 3. The auto traffic to parking area 4 is approximately 15 cars per day. There are 20 - 25 semitrailers entering and going to ramp areas each day. There is constant fork truck activity throughout the plant site daily.

Traffic Control - None

Road Surfacing - Bituminous Concrete and Compacted Aggregate

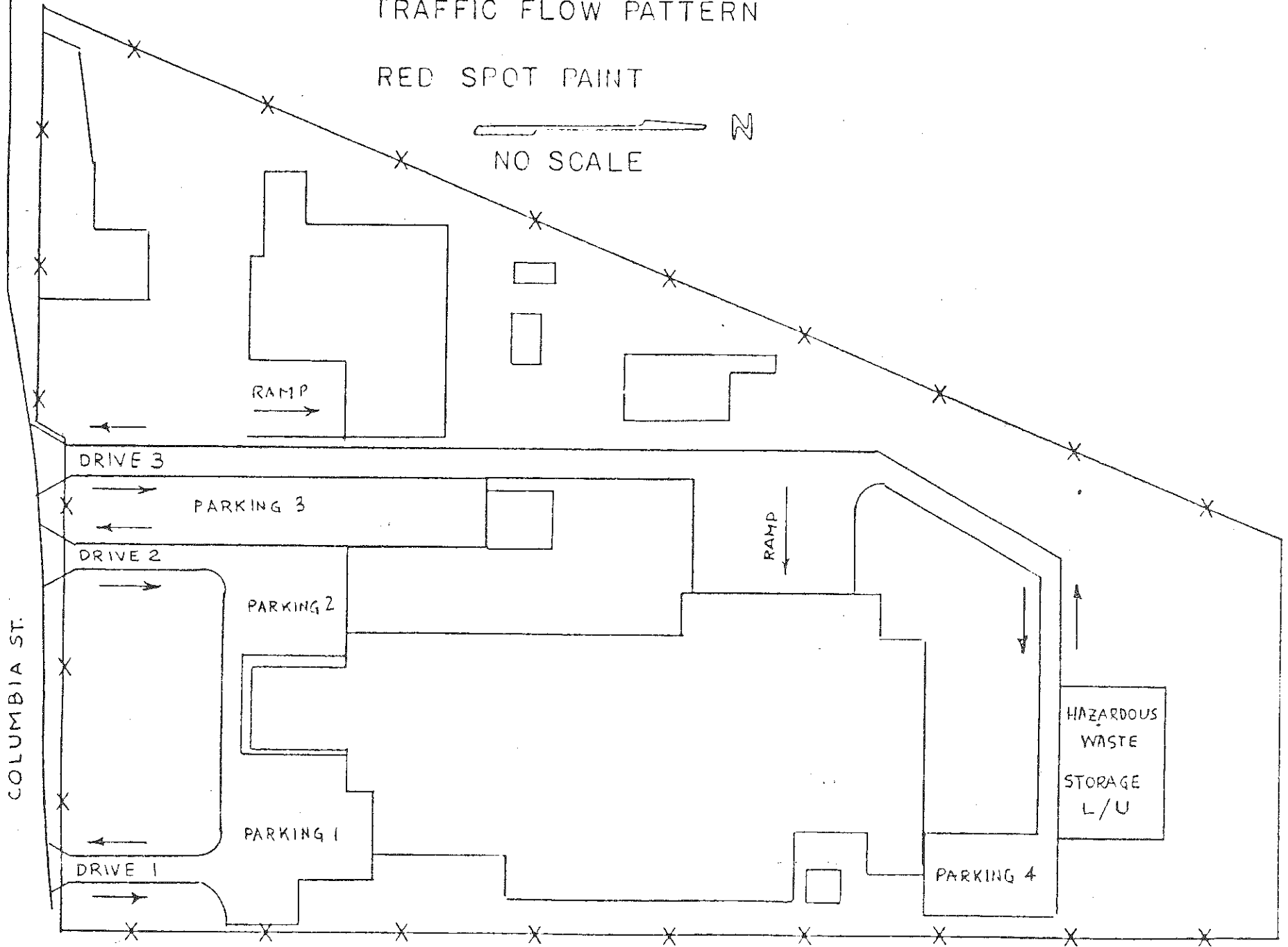
Loading Bearing - All drives capable of bearing 90,000 pounds gross vehicle weight.

TRAFFIC FLOW PATTERN

RED SPOT PAINT

NO SCALE

N



Master
Characteristics

WASTE CHARACTERISTICS

The only hazardous wastes handled and treated at this site are those that are generated on site. As the result of manufacturing paint and varnish.

We have three waste streams:

1. Spent Solvents from cleaning paint manufacturing equipments. (FO03 & FO05) (DO08).
2. Still Bottems from recovery of Spent Solvents. (FO03 & FO05) (DO08).
3. Waste Water from cleaning paint manufacturing equipment. (DO05).

Streams one and two are hazardous because of ignitability, the flash point is less than 70°F. In addition, the possibility exists that the streams contain lead chromate pigments since small quantities are used on site. Therefore, wastes are considered EP Toxic.

Stream three is considered hazardous because of possible EP Toxicity from barium since barium metaborate is an ingredient in some water-borne paints manufactured on site.

EP TOXICITY OF PAINT SLUDGE

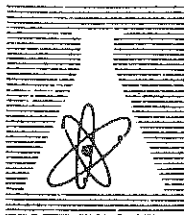
<u>SAMPLE NO.*</u>	<u>8138</u>	<u>RCRA LIMITS (mg/l)</u>
MERCURY	< 2.0 µg/l	0.2
ARSENIC	< 50.0 "	5.0
SELENIUM	< 0.10 mg/l	1.0
BARIUM	3.0 "	100.0
CADIUM	0.88 "	1.0
CHROMIUM	0.15 "	5.0
LEAD	13.3 "	5.0
SILVER	< 0.05 "	5.0
FLASH POINT	< 70°F	

* ANALYSIS BY NATIONAL LABORATORIES, INC.
 705 S. Barker
 Evansville, IN 47712

EP TOXICITY OF WATER SLUDGE

<u>SAMPLE NO.*</u>	<u>7233</u>	<u>RCRA LIMITS (mg/l)</u>
ARSENIC	< 0.50 mg/l	5.0
BARIUM	120 "	100.0
CADIUM	0.10 "	1.0
CHROMIUM	0.10 "	5.0
LEAD	0.70 "	5.0
MERCURY	< 0.02 "	0.2
SELENIUM	< 0.10 "	1.0
SILVER	0.07	5.0
FLASH POINT	> 165°F	

*ANALYSIS BY NATIONAL LABORATORIES, INC.
 705 S. Barker
 Evansville, IN 47712



National Laboratories, inc.

705 S. BARKER • TELEPHONE (812) 422-4119

EVANSVILLE, INDIANA 47712

To: Red Spot Paint & Varnish Co., Inc.
P. O. Box 418
Evansville, IN 47703

Date Rec'd 5/31/83

Date Reported 6/8/83

Attention: Gene Berkey

P. O. No. 16692

Sample	Still Bottom Waste B3559	Solid B3560	RCRA Limits
EP Toxicity			
As	0.023	0.009	5.0
Ba	2.02	7.90	100.0
Cd	< 0.01	< 0.01	1.0
Cr	0.06	< 0.03	5.0
Pb	0.74	0.10	5.0
Hg	0.009	< 0.002	0.2
Se	0.020	0.010	1.0
Ag	< 0.03	< 0.03	5.0
Identify Solvents	Toluene, Acetone, Ethyl Acetate in both samples.		
Flash Point	The flash point could not be run because it is solid.		
	This material is listed as a Generic Hazardous Waste		
	under Section 261.31 in the category of F003,		
	which is an ignitable waste.		

NOTE: All results other than pH will be reported in mg/l unless otherwise noted.

National Laboratories, Inc.
per: C. G. Shultz, Ph.D., P.E.

WASTE ANALYSIS PLAN

The hazardous wastes of this site are stored in drums. To ensure a representative sample the drums are selected according to Military Standard 105A Sample Plan.

Each drum is then thoroughly agitated and the contents sampled by means of a pipette capable of reaching the bottom of the drum. The individual drum samples are then combined into a composite sample for analysis.

Analysis is conducted according to the procedures outlined in 40CFR Part 261 Appendix II; with the determination of heavy metal content by atomic absorption.

Flash point is determined using Pensky-Martens closed cup tester while pH is determined by an electrometric pH meter.

Since the facility handles only waste generated on site, analyses are run on an as needed basis.

WASTE ANALYSIS PLAN

PARAMETERS AND TEST METHODS

PARAMETER	TEST METHOD	REFERENCE
pH	Electrometric	Test Methods for Evaluating Solid Waste. Physical/Chemical Methods U.S. EPA SW-846
Flash point	Pensky-Martens closed-cap tester	ASTM Standard D-93-79 or D-93-80
EP toxicity	EP toxicity test procedure	40 CFR 261, Appendix II
Lead	Atomic absorption	Methods for chemical analysis of water and wastes, EPA-600/4-79/020, March 1979
Barium	Atomic absorption	Methods for chemical analysis of water and wastes EPA-600/4-79/020, March 1979

Process
Information

PROCESS INFORMATION

Containers

The principal containment device for free liquid containing hazardous waste is a 55 gallon drum meeting D.O.T. 17E or 17H specifications. These drums are from two sources:

- (a) Empty drums in which flammable raw materials were received.
- (b) Drums reconditioned to D.O.T. 17E or 17H specifications.

Since the only hazardous wastes handled are generated on site and are basically spent raw materials which are not reactive, no compatibility problem exists with the wastes or the container material.

Container Management

Page 21 thru page 39 is a copy of the container management instructions given to employees who handle the waste streams.

All drummed material is handled by fork truck, either 4 drums per pallet or individually with drum handling attachment on forks.

All waste is generated on site and is compatible, therefore; no effort is made to separate wastes.

All outdoor storage is exposed to full sunlight.

Drums are dated when put into storage and held in storage until 80 drums are accumulated, then drums are shipped to disposal site. The storage area has a capacity of 2016 drums. See diagram on page 31.

Secondary Containment System

Drummed hazardous waste is stored in a diked storage area. The base is earth with compacted gravel cover. The area is graded and sloped to contain run-off in diked area. The dike is capable of containing 10,000 gallons.

The diked area has a drain system which allows water to be drained to a public sewer. Any collection of rainwater would be noted during weekly inspection. See page II in appendix for inspection log.

In the case of a spill, the liquid would be pumped from diked area into D.O.T. 17H drums and solidified. The drums would be sealed, labeled as hazardous waste, and landfilled to a permitted site.

HAZARDOUS WASTE

The Resource Conservation and Recovery Act sets forth procedures for handling our dirty wash-up or waste streams. Obviously, the safety precautions we have always observed will not change. The changes are in the way we store, label, treat and document our various waste streams.

This packet includes:

1. List of waste streams and the way they are to be handled.
2. The Contingency Plan
3. Inspection Forms
4. Inventory Forms
5. Storage Plan

The list of waste streams is self-explanatory; however, it should be emphasized that all drums must be closed except when adding or removing contents. The Contingency Plan outlines the procedures to follow in the event of fire or a major spill. The inspection forms are for inspections that must be carried out daily or weekly. The inventory forms are to determine how much hazardous waste is on site. The Storage Plan is how drums are to be stored in diked hazardous waste area.

HAZARDOUS WASTE SOURCES

We have seven sources of hazardous waste at Red Spot. These sources are:

1. Dirty Wash Up, Solvent
2. Dirty Wash Up, Water
3. Laboratory Wastes, Solvent
4. Laboratory Wastes, Water
5. Filters, Bags, and other Solid Wastes
6. Empty drums containing sludge
7. Still Bottoms

The following flow sheets shows the proper handling for each source.

DIRTY WASH UP, SOLVENT

1. Collect in a used tight head, D.O.T. 17E drum. D.O.T. 17E is a drum for red label materials. The D.O.T. 17E is stamped on the bottom of the drum.
2. When drum is full, seal drum, label drum "Dirty Wash-Up-Solvent" and the date drum was filled. Labeling should be on top and side of the drum.
3. Place full drum in yard between Dock 2 ramp and Breakroom next to driveway for Gate 3. See diagram.

This material will be run through our solvent reclamation still.

DIRTY WASH UP, WATER

1. Collect in a used or reconditioned open head D.O.T. 17H drum. D.O.T. number stamped on the bottom of the drum. Also the same as Red Spot code 400 drum.
2. Fill drum approximately 2/3 full, seal drum and label drum on top and side "Dirty Wash-Up-Water." Also, the date the drum was filled should appear on the top and side of drum.
3. Place drum in yard north of driveway behind building 3C. See diagram.
4. Drum will be solidified by addition of clay or "Floor Dry". After solidification, seal drum, label top and side of drum "Solid Hazardous Waste," affix hazardous waste label and date the label. See example.
5. Store these drums in diked storage area. See diagram.

This material will be sent to a permitted hazardous waste site and buried.

LABORATORY WASTE, SOLVENT

The waste will be handled in the same manner as Dirty Wash Up, Solvent.

LABORATORY WASTE, WATER

The waste will be handled in the same manner as Dirty Wash Up, Water.

FILTERS, BAGS AND OTHER SOLID WASTE

1. Waste will be collected in a used or reconditioned open head D.O.T. 17H drum.
2. When drum is full, add "Floor Dry" or clay to fill void spaces and seal drum. Label drum on top and sides "Solid Hazardous Waste." Affix and date hazardous waste label.
3. Store these drums in diked storage area.

This material will be sent to a permitted hazardous waste site and buried.

EMPTY DRUMS CONTAINING SLUDGE

1. These drums are to be placed in yard north of driveway behind building 3C. See diagram.
2. Dehead drum and empty sludge into used or reconditioned, open head, D.O.T. 17H drum.
3. Fill open head drum approximately 2/3 full and solidify with clay or "Floor Dry." Seal drum, label top and sides "Solid Hazardous Waste," affix and date hazardous waste label and store in diked area.

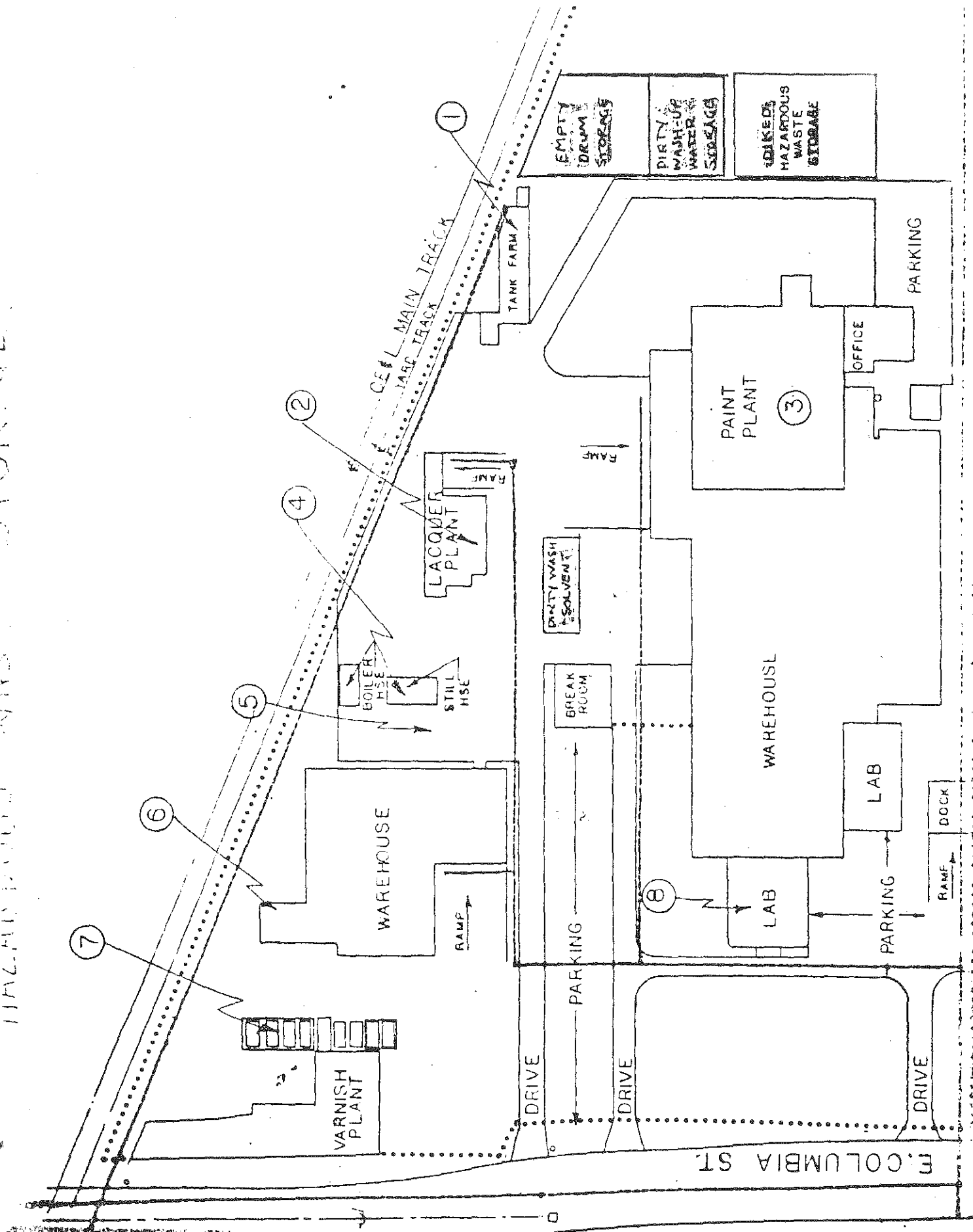
This material will be sent to a permitted hazardous waste site and buried.

STILL BOTTOMS

1. Still will be drained into used or reconditioned, open head, D.O.T. 17H drums.
2. Fill drum, seal drum, label top and sides "Hazardous Waste for M & M". Affix and date hazardous waste label.
3. Store in diked area.

This material will be used as fuel for cement kilns.

HAZARDOUS WASTE TANK FARM



HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY
OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

(REFERENCE: 40 CFR-SECTION 262.32(b))

GENERATOR'S NAME Red Spot Paint & Varnish Co., Inc.
ADDRESS 1016 E. Columbia CITY Evansville STATE IN ZIP 47711

MANIFEST DOCUMENT NUMBER _____ EPA ID # IND 990873499

EPA/DOT SHIPPING NAME Waste Paint

DATE OF GENERATION/ACCUMULATION 3

**HANDLE WITH CARE -- THIS CONTAINER IS DANGEROUS AND CONTAINS
HAZARDOUS OR TOXIC WASTE**

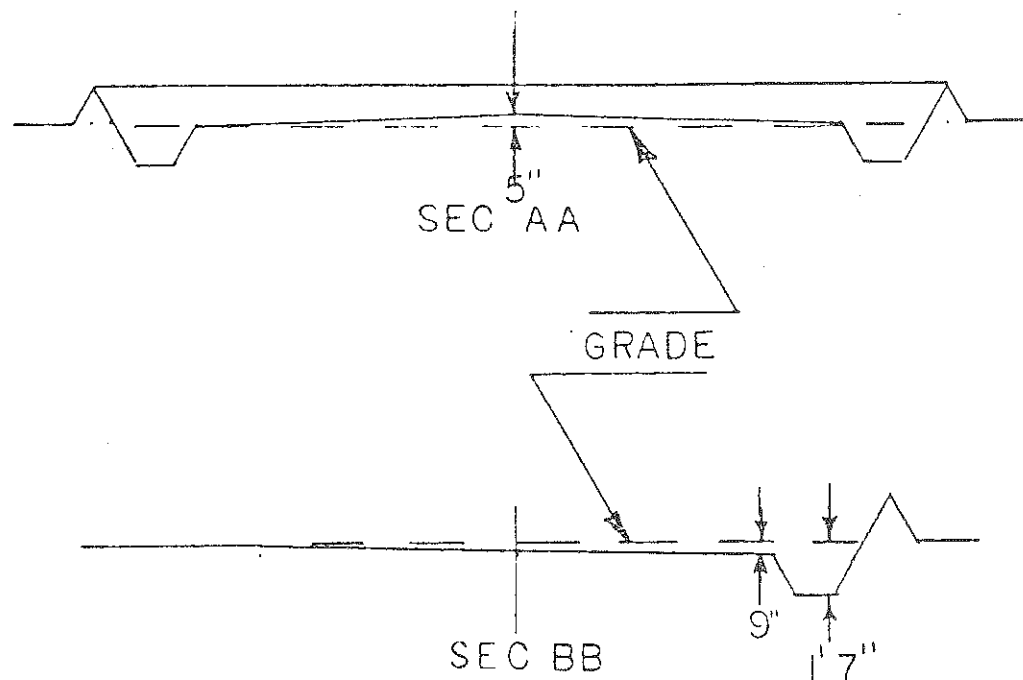
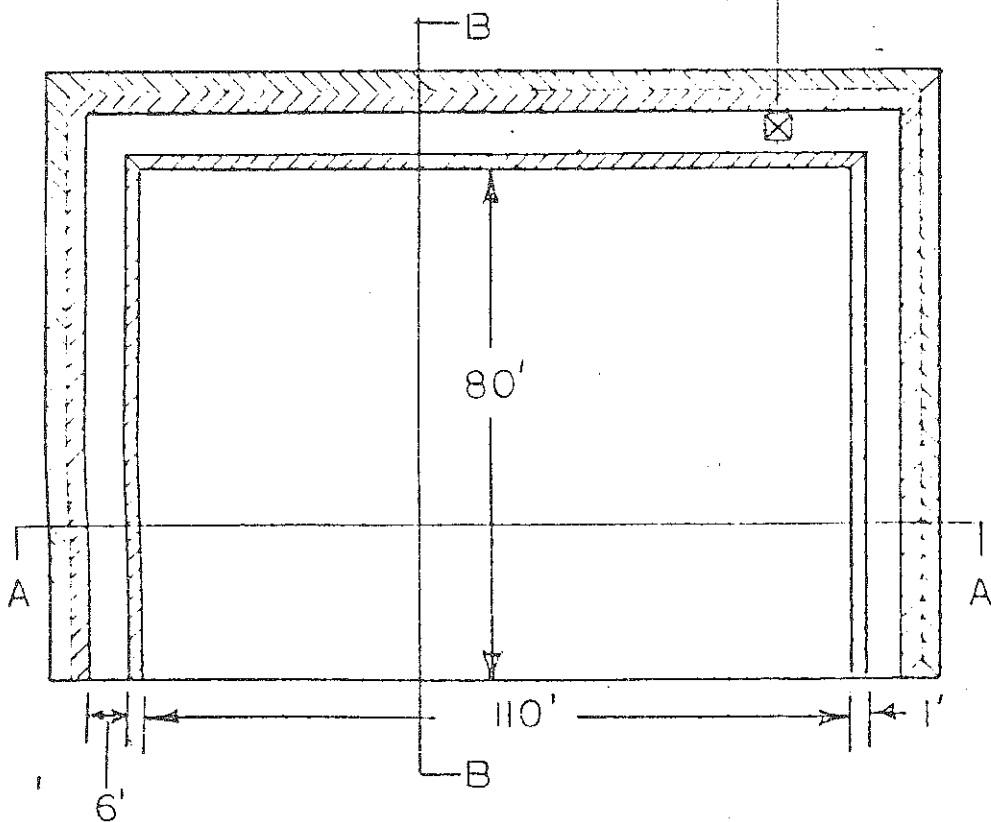
IT IS RECOMMENDED THAT IF THIS LABEL WILL
BE AFFIXED TO ANY CONTAINERS WHICH ARE
TO BE EXPOSED TO THE ELEMENTS FOR ANY
SUSTAINED PERIOD OF TIME, THAT EACH
LABEL BE PERMANENTLY COVERED WITH
LABELGARD TAPE.

IN THE EVENT OF A SPILL OR RELEASE OF THIS
HAZARDOUS WASTE, CONTACT THE U.S.
COAST GUARD NATIONAL RESPONSE CENTER
AT 800-424-8802 FOR INFORMATION AND AS-
SISTANCE.

30

, Page 31 of 121

DRAIN TO
PUBLIC SEWER
VALVE NORMALLY CLOSED



RED SPOT PAINT & VARNISH CO.
HAZARDOUS WASTE
CONTAINMENT AREA

NO SCALE

TANKS

Two tanks are used to contain hazardous waste. One is a mild steel tank used to hold spent solvent prior to reclamation. The other is a concrete tank used to contain wash water from cleaning equipment used to produce waterborne paints.

The steel tank was fabricated in accordance with Underwriters Laboratories specifications for above ground flammable liquid storage tanks. The Underwriters' tank number is 184271.

The tank is mounted on a concrete block foundation. These blocks have a compressive strength in excess of 149,000 PSI as tested according to ASTM C-140. The tank and its contents would not exceed 15,000 pounds when full. See drawing on page 35.

The tank is vented according to National Fire Protection recommendations. See drawing on page 36.

The material stored in this tank is of neutral pH and is not reactive, therefore; no erosion potential exists.

The concrete tank is below grade and constructed with 8" thick concrete on bottom and sides. It is equipped with a $\frac{1}{4}$ " steel cover which is removable.

The material in this tank is water having a pH range of 6.5 to 7.5, therefore; no erosion potential exists.

Tanks and piping are inspected daily for leakage.

TANK MANAGEMENT PRACTICES

- I. On page 37 is a simplified flow diagram of the Spent Solvent Reclamation System.

Spent Solvent is pumped into the storage tank (See drawing on page 35.) to give a more uniform waste stream to feed the reclaimer. Maximum dwell time in storage tank would be seven calendar days.

The reclaimer processes approximately 500 gallons/working day of spent solvent. It yields approximately 450 gallons/day of reclaimed solvent.

The Still Bottoms are drained into D.O.T. 17H drums, sealed, labeled and shipped to a permitted facility that blends the still bottoms for use as a fuel for cement kilns.

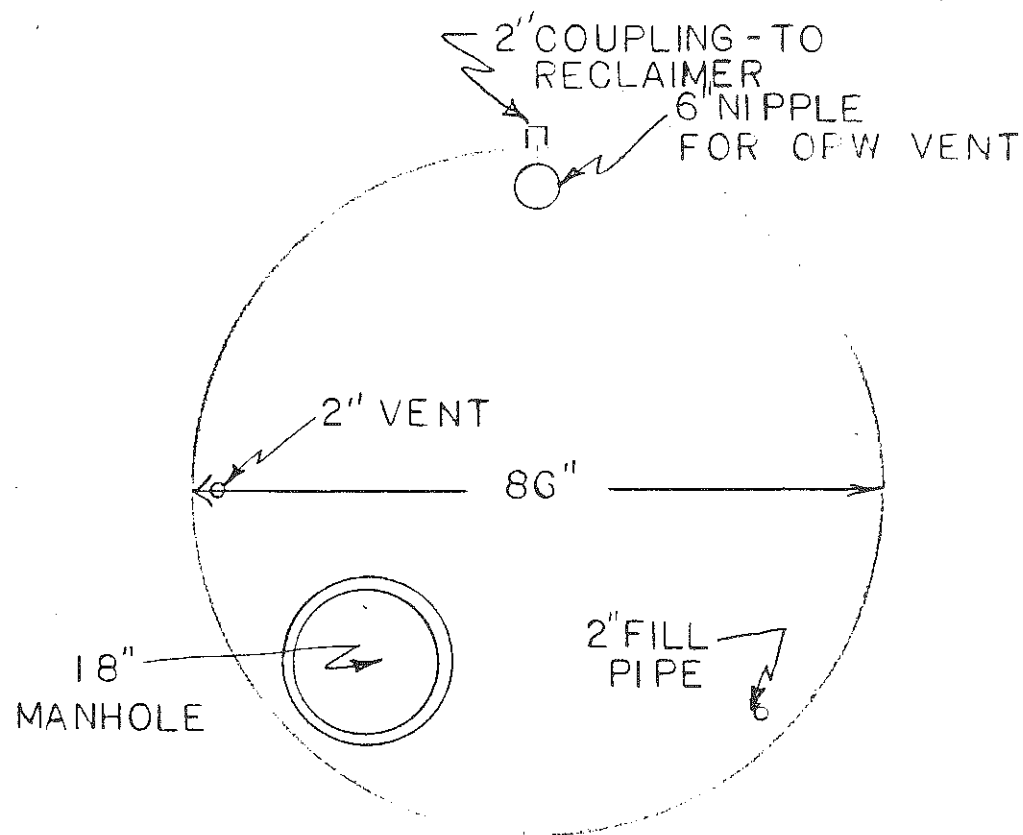
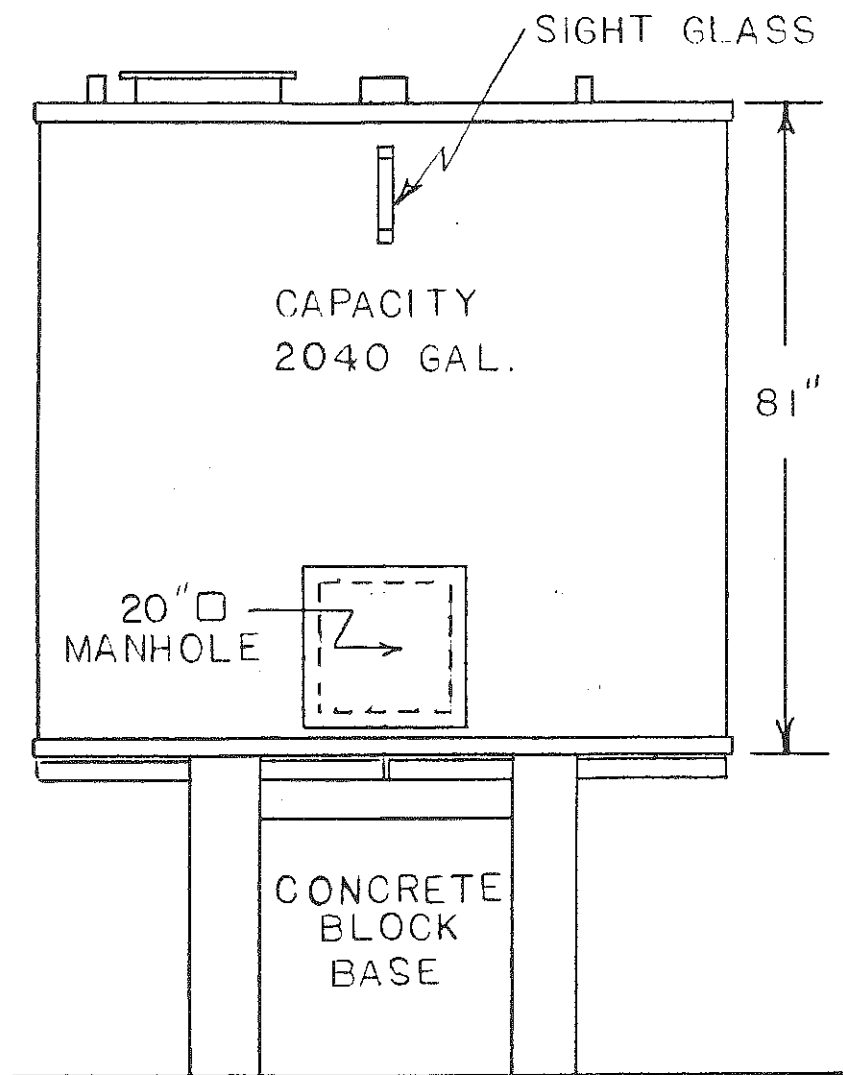
The reclaimed solvent is used on site for equipment cleaning.

11. On page 39 is a simplified flow diagram of Waterborne Hazardous Waste System.

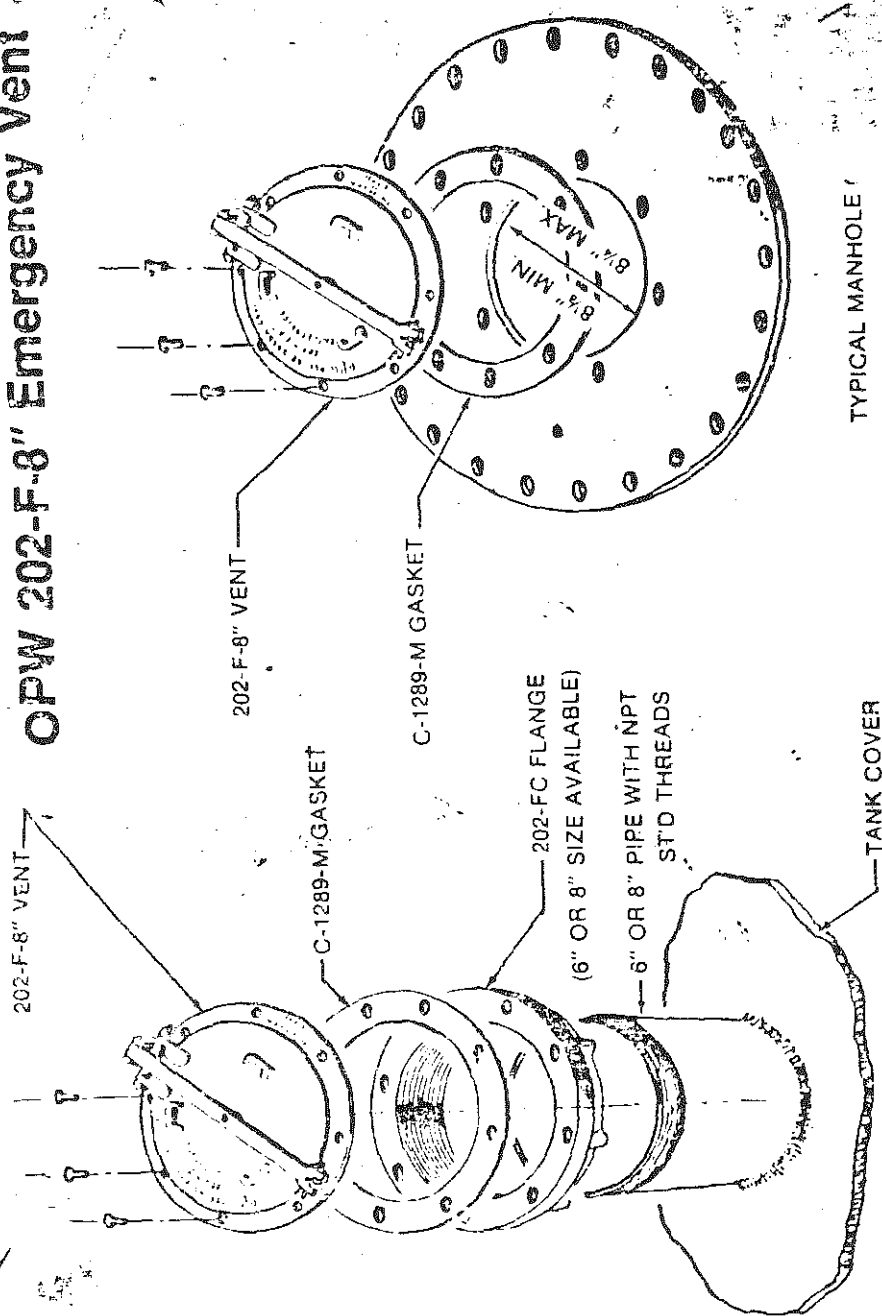
The portable tanks are washed with hot water. The wash water is allowed to drain into the holding tank for settling of solids.

The holding tank is pumped out every 4 to 6 months based on need. Material pumped from the tank into D.O.T. 17H drums solidified, sealed, labeled, and sent to a permitted landfill.

The overflow to POTW is sampled every 3 months and analyzed according to the "Standard Methods of Examining Water and Waste Water, 15th Edition."



HAZARDOUS WASTE STORAGE TANK



TYPICAL MANHOLE

TANK COVER

OPW INSTRUCTIONS

Installation of OPW 202-F-8" Emergency Vent

For Manhole Cover Mounting

1. Locate a relatively flat area on the manhole cover and cut a minimum 8 1/8 inch diameter hole. (Maximum diameter 8 3/4")
2. Using the vent flange as a template, center the vent with respect to the hole cut in step 1 and mark the bolt holes on the cover. Drill through the cover with a 7/16 inch drill.
3. Place the gasket (OPW Part No. C-1289-M), supplied with the 202-F-8" Vent, on the manhole cover, then the 202-F-8" Vent and secure with bolts. Carefully apply the same torque all around. **CAUTION:** Do not tighten the bolts excessively. This may distort the vent flange and cause binding of the vent cover.
4. Remove one of the cotter pins from the carbon break pin. Gently push down on the end of the hold-down bar and slide the carbon break pin out. Open the cover to be sure that it swings open freely. Lubricate O-ring with light coat of petrolatum.
5. Close the cover, replace the carbon break pin and the cotter pin. **NOTE:** Be sure that the carbon rod is centered in the bar so that the cotter pins are the same distance from the bar on each side.

For Mounting Using 6" or 8" Pipe

1. In mounting an OPW 202-F-8" Emergency Vent to a 6" or 8" pipe it is necessary to use an OPW 202-FC Mounting Flange.
2. Mount the 202-FC Flange to the pipe which has been previously mounted to the tank.
3. Place the gasket (OPW Part No. C-1289-M) supplied with the 202-F-8" Vent on the flange and secure the vent to the flange using the bolts supplied with the 202-FC Flange. Carefully apply the same torque all around. **CAUTION:** Do not tighten the bolts excessively. This may distort the vent flange and cause binding of the vent cover.
4. Remove one of the cotter pins from the carbon break pin. Gently push down on the end of the hold-down bar and slide the carbon break pin out. Open the cover to be sure that it swings open freely. Lubricate O-ring with light coat of petrolatum.
5. Close the cover, replace the carbon break pin and the cotter pin. **NOTE:** Be sure that the carbon rod is centered in the bar so that the cotter pins are the same distance from the bar on each side.



CORPORATION / OPW DIVISION

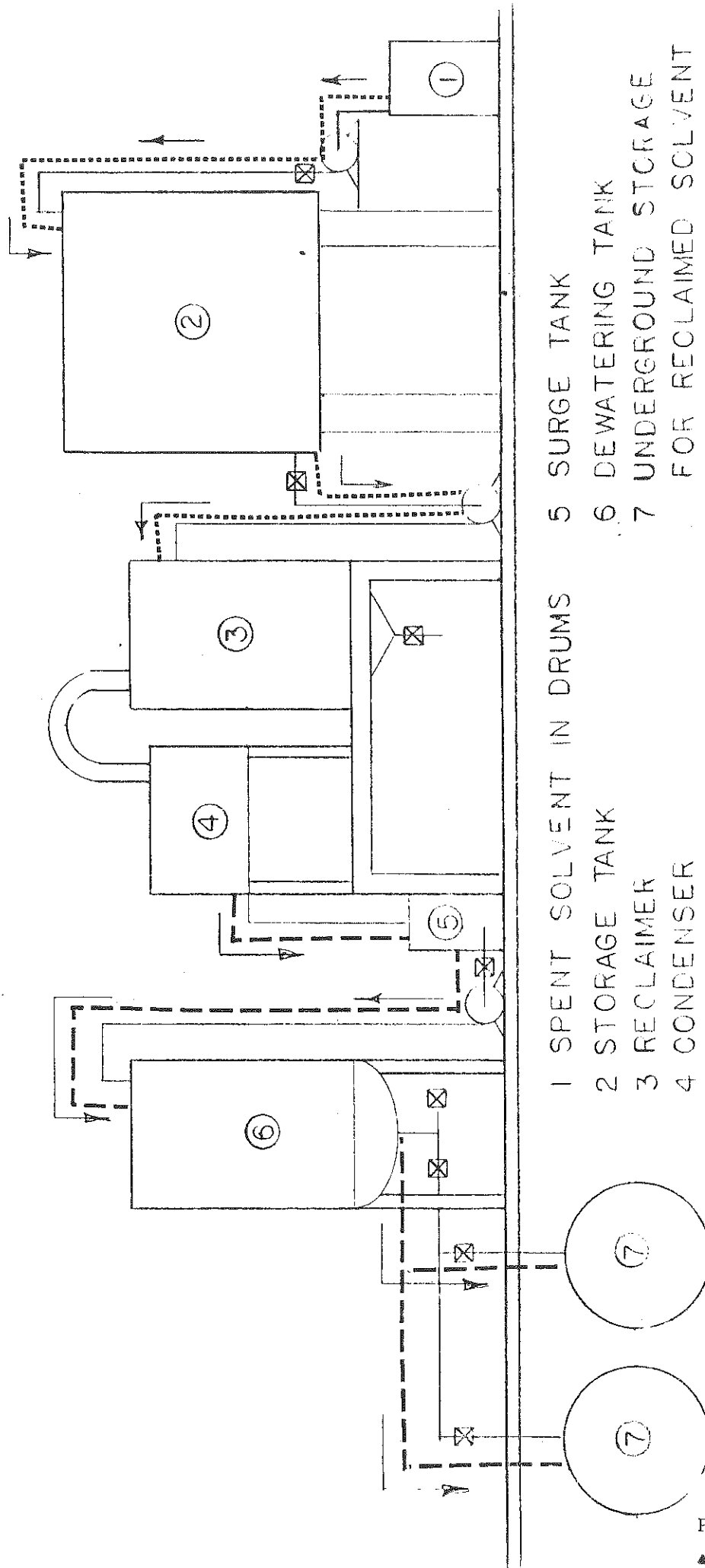
2353 PRINCETON - GLENDALE ROAD
P.O. BOX 40240 • CINCINNATI, OH 45240
TELEPHONE (513) 870-3100 • TELEX 21-4300 • CABLE NOZZLE CIN



CORPORATION / OPW DIVISION

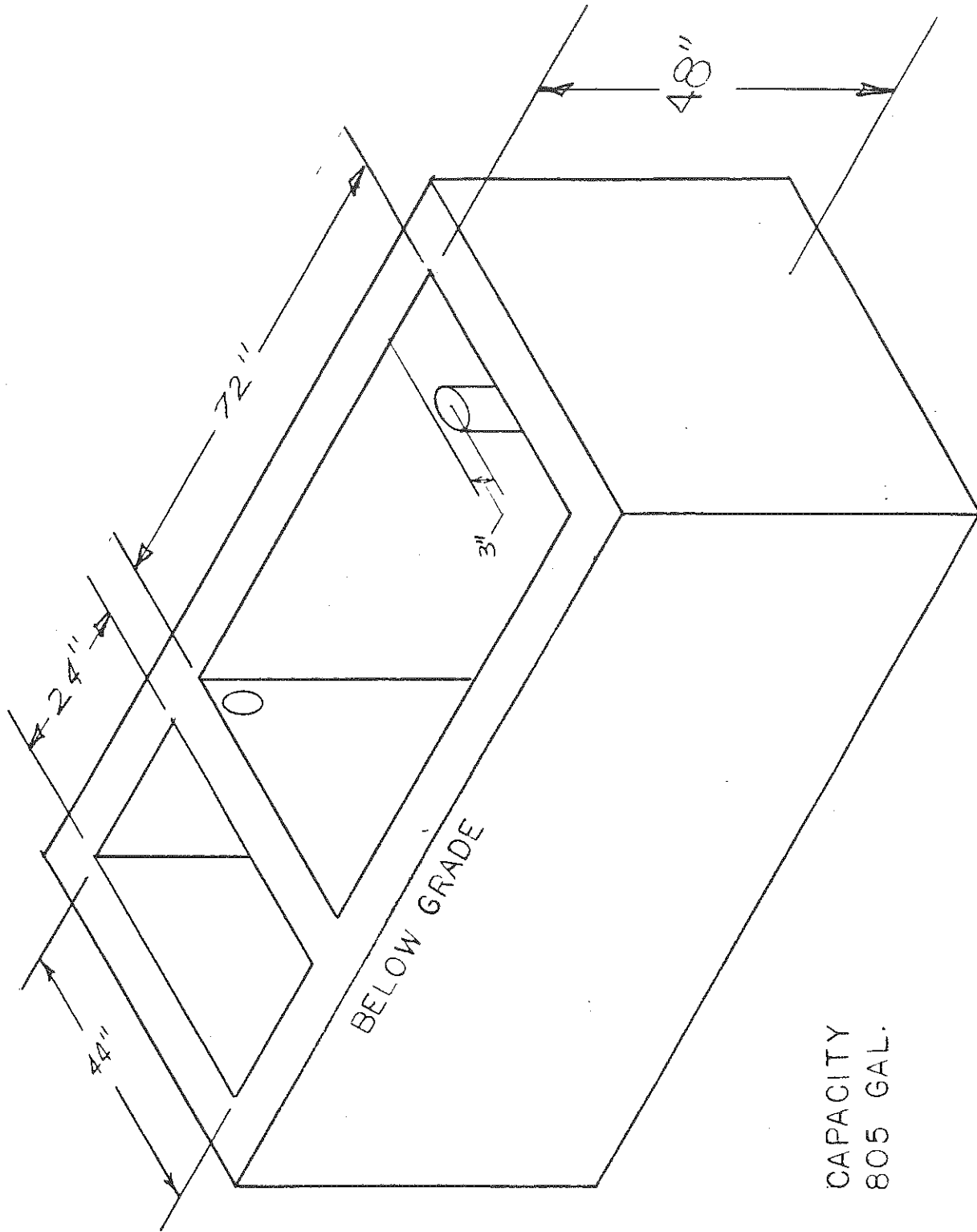
2353 PRINCETON - GLENDALE ROAD
P.O. BOX 40240 • CINCINNATI, OH 45240
TELEPHONE (513) 870-3100 • TELEX 21-4300 • CABLE NOZZLE CIN

SPENT SOLVENT RECLAMATION



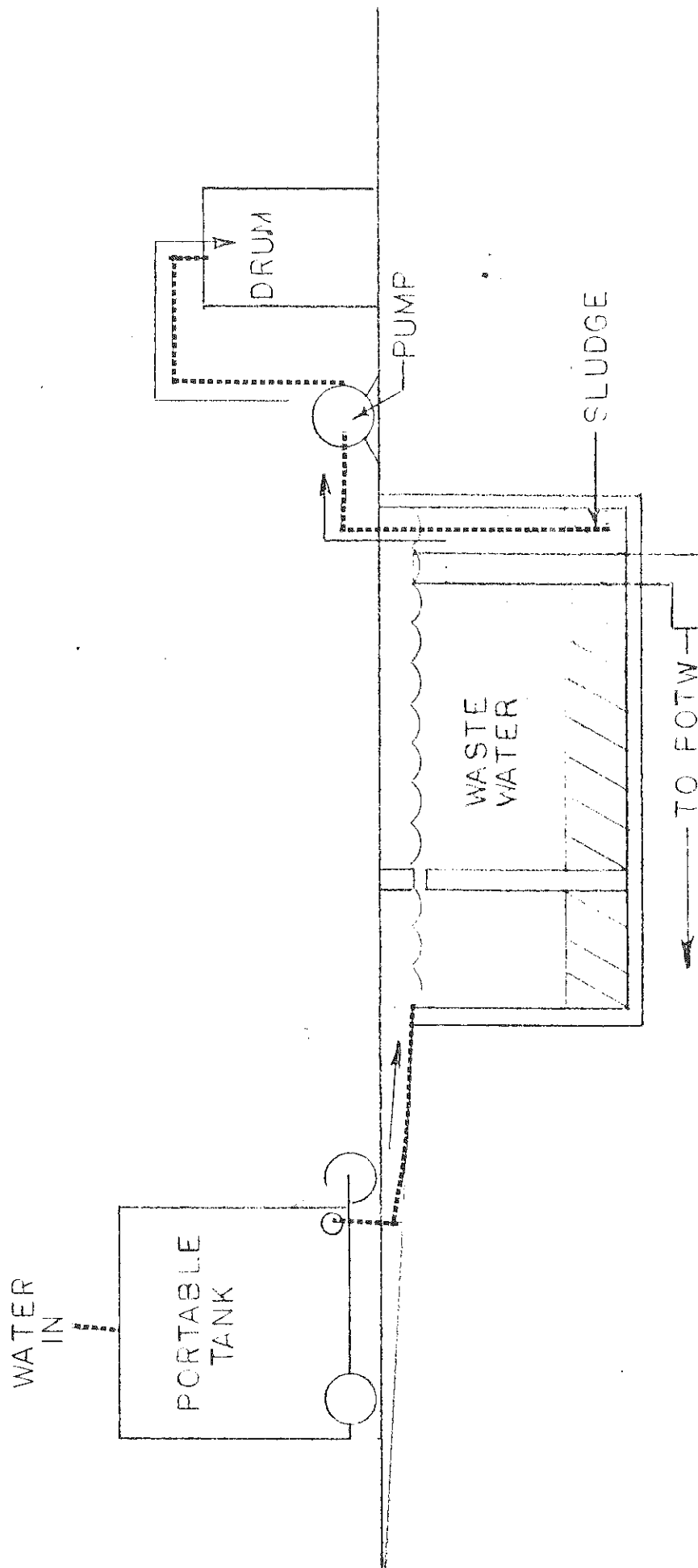
..... SPENT SOLVENT STREAM

----- RECLAIMED SOLVENT STREAM



CAPACITY
805 GAL.

WATER BORNE HAZARDOUS WASTE TANK
CONCRETE CONSTRUCTION



WATER BORNE HAZARDOUS WASTE SYSTEM
 NO SCALE

Security

SECURITY

Since the majority of the raw materials used on this site are hazardous from an ignitability standpoint, the spent materials are handled in a manner consistent with our present fire and spill prevention plans.

The hazardous wastes are within the confines of the plant site which is surrounded by an 8 foot chain link fence with 3 locked gates.

The plant operates one shift per day. Normally between the hours of 6:30 AM to 5:00 PM. During the off hours security is maintained by patrolling by humans and dogs.

Warning signs, consistent with industry practice, are used throughout the plant site. Safety inspections are conducted weekly. Copy of inspection log is on page 41.

INSPECTORS <u>Tom Harrison</u>		DATE <u>10-27-82</u>			
FIRE ALARM, PLANT, WELD WAREHOUSE, AND DRUM ROOM		LOCATION	REPORTED TO SUPERVISOR	DATE	CORRECTIVE ACTION
<u>SPRINKLERS</u>					
flammable liquids within 36"		OK			
ordinary stock within 18"					
easier access blocked					
other					
<u>FIRE EXTINGUISHERS</u>					
deal broken					
access blocked					
properly hung					
other					
<u>HOSE STATIONS</u>					
hose attached		OK			
nozzle attached					
properly racked					
access blocked					
other					
<u>GROUNDING & BONDING</u>					
broken clamp		OK			
broken wire					
other					
<u>FLAMMABLE LIQUIDS</u>					
self closing valves used?		OK			
self closing valves springs on?					
visible link holders for above OK?					
containers have covers?					
visible links on?					
other					
<u>FIRE DOORS</u>					
hose OK?		OK			
work OK?					
locked open?					
visible links OK?					
other					
<u>SPRAY BOOTH</u>					
filters need changing?		OK			
booth need cleaning?					
sprinkler protected?					
sprinkler bag needs changing?					
other					

HOUSE KEEPING

ash drums full
up towels not in containers
her

OK

OTHER PROBLEMS

SAFE 13' SHOWER @ V.P. IS HARD TO PULL

Contingency
Plan



CITY OF EVANSVILLE
Evansville Fire Department
203 CIVIC CENTER COMPLEX
EVANSVILLE, INDIANA 47708
(812) 426-5668

MICHAEL D. VANDEVEER
MAYOR



Sirs;

Be advised that Red Spot Paint & Varnish Co., Inc. has supplied the Evansville Fire Dept. a copy of their contingency plan for emergency procedures. We are aware of the materials stored and manufactured at this site and our department inspects the buildings on an annual basis.

If I can be of any further assistance feel free to contact me any time.

Douglas Wilcox
Chief Inspector
Evansville Fire Dept.

CONTINGENCY PLAN

Red Spot Paint & Varnish Co., Inc. is primarily a manufacturer of industrial paints. As such, a large number of the raw materials used are considered hazardous because of flammability. In addition, the primary hazardous waste activity at this site is the storage of spent solvents (FOG3, F005) in drums; therefore, this plan is the same as our present Fire and Spill Control Plans.

EMERGENCY PROCEDURES

Emergency procedures are handled by members of the Safety Committee and Management; however, the prime responsibility rests with the Emergency Coordinator or Alternate. They are as follows:

Primary Emergency Coordinator

Tom C. Brown
Home Address: 603 Berry Court, Evansville, IN Business Phone: 428-9152
Home Phone: 867-7675

1st. Alternate

Ray Sills
Home Address: 1508 S. Harlan, Evansville, IN Business Phone: 428-9158
Home Phone: 477-5839

2nd. Alternate

Gene Berkey
Home Address: 101 Court, Apt. 1310, E'ville, IN Business Phone: 428-9154
Home Phone: 422-2928

The local Fire Department is our primary contact with public safety groups and they coordinate the Public Safety Activities. The Fire Department has a copy of this contingency plan.

An organization chart for the Emergency Team appears on page_____.

The following is the Emergency Procedure for fire:

GENERAL FIRE PROCEDURE

The person discovering the fire will:

1. Dial fire alarm - 198
2. Call Fire Department - 9-911
3. Shut off alarm - dial 199
4. Dial 6112 and announce location of the fire
5. Dial fire alarm - 198
6. See that everyone is out of the building
7. Check elevators to be sure no one is there
8. Close fire doors
9. Members of the Emergency Team will direct operations and fight fire until local Public Safety Groups are on the scene and then allow Public Safety Groups to direct operations.

Specific Emergency Procedures for Warehouse:

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of plant, proceed as follows:

1. Close fire doors first, than all other doors.
2. Turn off exhaust fans.
3. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for 1st. Floor Paint

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of plant, proceed as follows:

1. Shut off ventilation system and spray booths.
2. Turn off mills.
3. Check elevators for trapped workers.
4. Turn off floor tank valves.
5. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for 2nd. Floor Paint

1. Dial fire alarm - 198
2. Call fire deparmtent - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of the plant, proceed as follows:

1. Shut off ventilation system and wall fans.
2. Turn off mills and tanks.
3. Close stairwell doors.
4. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for Filling and Filtration

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of the plant, proceed as follows:

1. Close drum room doors.
2. Lower all paint tanks to floor.
3. Turn off filters.
4. Close fire doors from production to warehouse.
5. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for Varnish Plant

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department 0 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Close fire doors
8. Check elevator to be sure no one is there
9. Fight fire

If you hear a fire alarm in another area of the plant, proceed as follows:

1. Turn off all motors and varnish fires.
2. Close fire doors and all other doors.
3. Turn off storage tanks.
4. Turn off all pumps.
5. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for 1st. Floor Lacquer Building

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of the plant, proceed as follows:

1. Turn off exhaust fans.
2. Turn off floor tanks.
3. Turn off all pumps.
4. Close doors.
5. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for 2nd. Floor Lacquer Building

Procedure to follow in the event of fire:

1. Dial fire alarm - 198
2. Call fire department - 911
3. Shut off alarm - 199
4. Announce location of fire
5. Turn alarm back on
6. See that everyone is out of building
7. Check elevator to be sure no one is there
8. Fight fire

If you hear a fire alarm in another area of the plant, proceed as follows:

1. Turn off exhaust systems.
2. Close lids on all tanks.
3. Close doors.
4. Turn off all pumps.
5. Pick up fire extinguisher and proceed to announced fire area.

Specific Emergency Procedures for Yard

Procedure to follow in the event of fire:

1. Go to nearest telephone and dial fire alarm - 198
2. Call fire department - 9-911
3. Shut off alarm - 199
4. Dial 6112 and announce location of fire
5. Dial fire alarm - 198
6. Fight fire

If you hear a fire alarm in another area of the plant, pick up fire extinguisher and proceed to announced fire area.

FIRE ESCAPE ROUTES

Paint Production 2nd Floor East Half of Building

Go down east stairs, out door at foot of stairs. Keep clear of buildings and follow drive and gather in yard in front of Research Building.

Paint Production 2nd Floor West Half of Building

Go down west stairs, out door at foot of stairs. Go thru drum yard to driveway. Go south on driveway and gather in yard in front of Research Building.

Paint Production 1st Floor East Half of Building

Labelers, Fillers and Tank Washers exit thru tank cleaning room. Go north until clear of building and follow driveway and gather in yard. Or, go thru Warehouse to Color Lab exit, east door of Color Lab and south to yard. Other employees exit thru doorway at foot of east stairs or thru production office. Follow drive south to Columbia St. and gather in yard in front of Research.

Paint Production 1st Floor West Half of Building

Exit thru the door at the foot of west stairs or thru the overhead door leading to dock. Go thru the drum yard to the driveway. Go south on driveway and gather in Research Yard.

Quality Control Lab

Exit thru west door, stay clear of buildings and follow driveway and gather in Research Yard.

Maintenance Shop

Exit thru west door, stay clear of buildings and follow driveway and gather in Research Yard.

Shipping and Receiving

Exit thru dock door or the overhead door leading to break room. Go to driveway, south on driveway and gather in Research Yard.

Lacquer Plant

Exit thru nearest door to driveway. Go south on driveway and gather in Research Yard.

Color Lab

Exit into Warehouse and go south to retail store exit. Or exit east door and go south. Gather in Research Yard.

Research Center

Exit thru nearest doorway and proceed south thru gate and gather in Research Yard.

Varnish Plant

Exit thru south doorways and gather in Research Yard.

Warehouse and Yard

Exit nearest doorway and go south on drive. Gather in Research Yard.

SPILL CONTROL

Spill control equipment consists of the following:

1. Absorbent Material
2. Squeegees
3. Brooms
4. Shovels
5. Disposal Drums

A copy of the spill control plan is included.

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

When a spill occurs take the following action:

1. Notification
 - (a) Notify your supervisor of spill
 - (b) Give location of spill
 - (c) Describe type of spill, that is, solvent, paint, resin, dirty wash up and etc.
2. Containment
 - (a) Contain spill using absorbent material, expecially prevent spill from entering drains and sewers.
 - (b) In the event the spill cannot be contained make dams of absorbent material around drains or sewer inlets to prevent spill from entering drains or sewers.
3. Clean Up
 - (a) Clean up spill using absorbent material, squeegees, and shovels.
4. Disposal
 - (a) All absorbent material, earth or other residue from clean-up of spill shall be placed in DOT 17H drums, absorbent material added to solidify any free liquid, sealed, labeled as solid hazardous waste, dated and stored in hazardous waste storage area. It will be taken to permitted landfill site with other accumulated hazardous waste.

In the case any spilled material enters a drain or sewer, notify the emergency coordinator, at Ext. 152 giving the following information:

1. Location of drain or sewer.
2. Type of material entering drain, that is; solvent, paint, resin, and ect.
3. Estimate amount entering the drain or sewer.

If it is determined that the volume of the spill may threaten public health or the environment, the emergency coordinator will notify the following:

1. Evansville West Side Treatment Plant at 425-5662 or 426-5665
2. Technical Secretary, Indiana Stream Pollution Control Board
Business Hours 317-633-0682
All other times 317-633-0144

FIRE PROTECTION

All buildings are sprinklered in accordance with the requirements of the National Fire Protection Association, Number 13, Automatic Sprinkler Systems: as well as, the more stringent requirements of our insurance carrier, Verlan Limited, an insurance company that insures only paint manufacturers. In addition, all sprinklers are equipped with A.D.T. alarms (Plot plan showing A.D.T. designation included.)

The above fire protection is supplemented with portable fire extinguishers located in compliance with our insurance carrier. The following is a list of the types of extinguishers available:

1. CO₂
2. Class BC Dry Chemical
3. Class ABC Dry Chemical
4. Class BC Purple K Dry Chemical
5. Class D Dry Chemical
6. Class AB Aqueous Film-Forming Foam

All extinguishers meet the criteria set forth by the National Fire Protection Association for portable fire extinguishers. These extinguishers are inspected monthly by Supervisors and the records are kept by the Emergency Coordinator.

If extinguishers are used or damaged, loaners are obtained from our safety suppliers and kept until the others are recharged or repaired.

Fire extinguisher locations are shown on Plot Plan on page_____.

In addition, all employees are trained in their use twice annually. This is done by means of "hands-on" use under the instruction of the Extinguishers Manufacturers Representatives.

Alarm systems consist of a wailing alarm over the paging system, a siren alarm, air horns and announcement of the fire location over the paging system.

SPILL CONTROL

Spill control material and tools are located in drums at the hazardous waste storage area and the lacquer plant tank farm. See Plot Plan on page_____.

OTHER EMERGENCY EQUIPMENT

First Aid cabinets are located through out the site. See Plot Plan on page_____. These cabinets contain:

- Bandage Materials
- Antibacterial Liquids and Ointments
- Analgesics
- Topical Anesthetics
- Eyewash Solution with Applicator

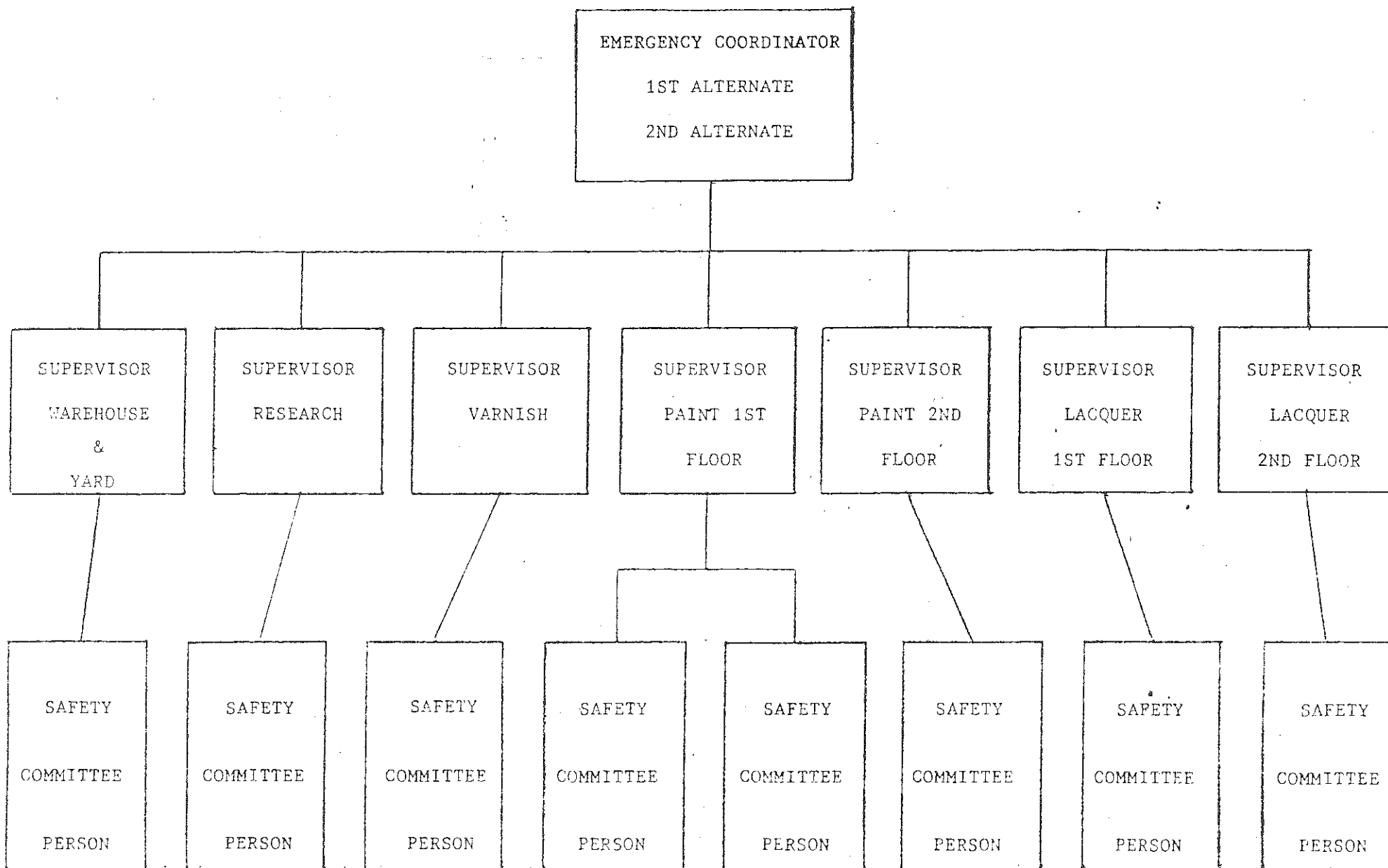
Emergency showers and eyewash fountains are located throughout the plant, see Plot Plan on page 51.

OTHER EQUIPMENT

Plastic and rubber aprons
Plastic and rubber gloves
"Tyvek" Coveralls
Safety Goggles
Self Contained Breathing Apparatus
Disposable Respirators

All of the above is located in the equipment cage for easy access.

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Training

TRAINING

All personnel at this facility are trained because this facility does not differentiate between the handling of raw materials and the handling of hazardous waste because both are flammable and have low flash points.

The personnel are trained in the following areas:

1. Effects of Static Electricity
2. Use of Fire Extinguishers
3. Safe operation of fork trucks
4. Emergency Procedures

The Static Electricity is an audio-visual presentation produced by Industrial Training Systems Corporation of Moorestown, NJ. Additional literature is supplied by the National Paint and Coating Association in the form of their technical circular "Generation and Control of Static Electricity."

Twice annually personnel are instructed in the use of fire extinguishers by representatives of the fire extinguisher manufacturer. This is done by "hands-on" experience using extinguishers to control and extinguish fires of the type that would be encountered on site.

The fork truck safety program is an audio-visual presentation with a written test. This training is conducted by sales representatives of the fork truck company.

Emergency drills are conducted twice a year with the entire facility participating. This is to rehearse the procedures outlined in the Contingency Plan. These Emergency Drills are conducted by members of management.

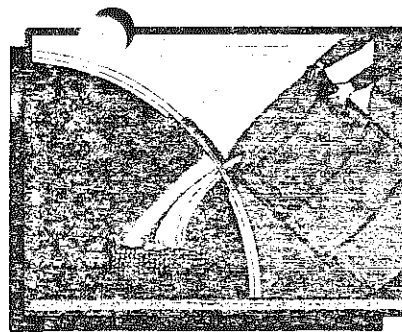
FIRES

Many fires in the paint and coatings industry are the result of a static spark igniting flammable vapors.



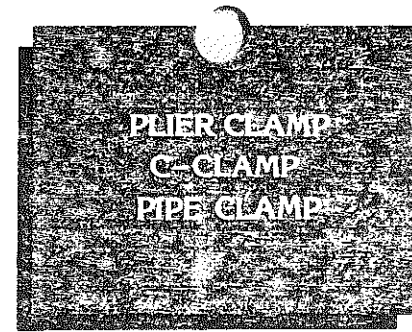
CONTROL

Failure to control static build-up when working with these materials can have serious results.



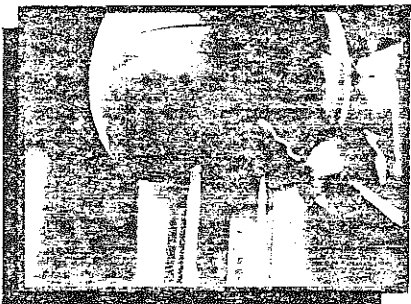
CLAMPS

To assure bonding and grounding, three types of clamps may be utilized. Plier clamps for temporary connections, the C-clamp for semi-permanent connections and the pipe clamp for permanent connections.



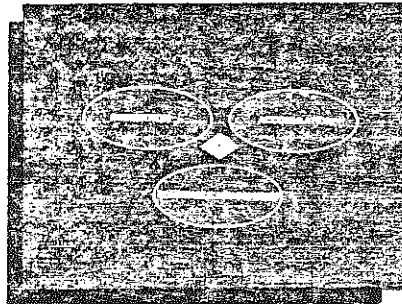
SPARK

Nature strives to maintain an electrical balance, and when a significant imbalance of electrons exists between two bodies not in contact, a spark can occur as electrons suddenly transfer across the gap.



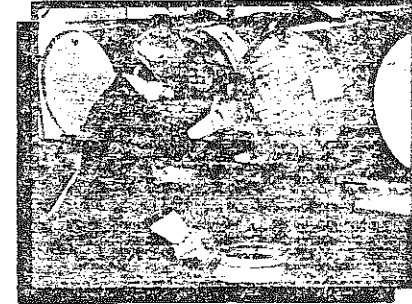
CONDITIONS

Four conditions must exist before static electricity can be a source of ignition. There must be a means of generation, the accumulation of the static charge must be sufficient to bridge the gap, a flammable atmosphere must be present, and a spark with sufficient ignition energy must occur.



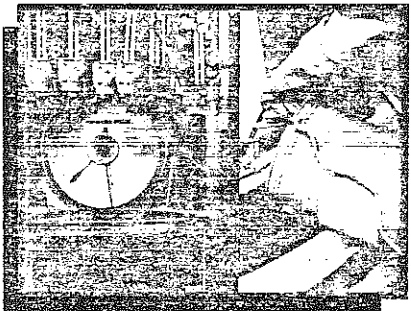
OPERATIONS

Operations requiring bonding and grounding include drum dispensing, mixing and let down tanks, fixed dispensing stations, tank cars and tank wagons.



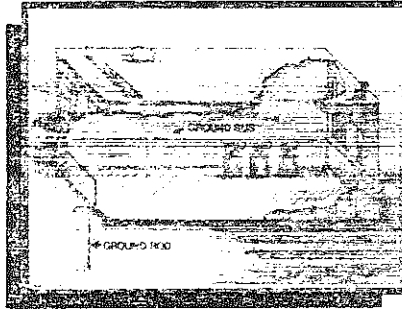
GENERATED

Static electricity can be generated by liquid flowing through piping, when it is allowed to free-fall at dispensing points or when poured, mixed, agitated or transported.



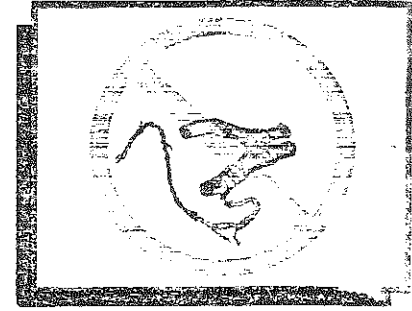
GROUNDING

Grounding is the procedure used to carry the electrical charge to ground through a conductive path. A typical ground may be connected directly to a conductive water pipe or to a grounding bus and ground rod.



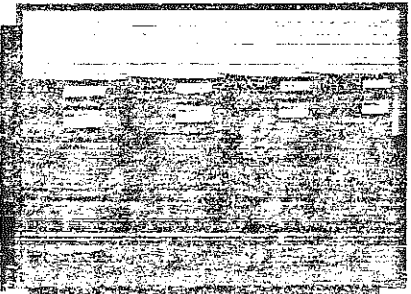
INSPECTION

Both the bare wire used to conduct the charge and the clamps should be regularly inspected for any sign of wear or damage.



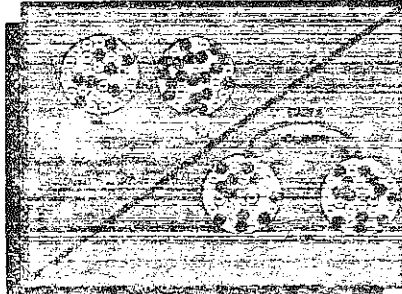
MATERIALS

Many of the materials used in the paint and coatings industry, for example lacquer thinner, VM & P Naphtha, methyl ethyl ketone and xylene, produce a flammable vapor.



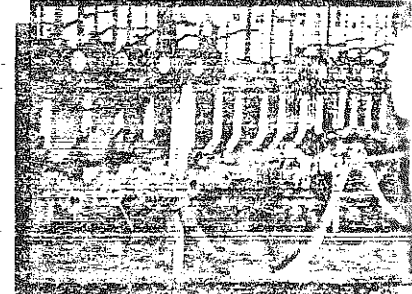
BONDING

Bonding, or inter-connecting two objects, equalizes the electrical potential difference between them.



MAINTENANCE

A bonding and grounding system depends on well maintained equipment. A heavy build-up of paint or resin on the clamps or at the point of contact will interrupt



GENERATION AND CONTROL OF STATIC ELECTRICITY

Static electricity is a major ignition source in the coatings industry. The hazard of static sparks capable of igniting flammable vapors can be minimized by controlling the rate of generation and rate of dissipation of electrostatic charge.

This circular addresses the problem of the generation of static electricity in flammable liquids. However, static electricity is also generated by the flow of non-flammable liquids and the movement of finely divided dry solid particles. The dumping of certain pigments into mills or mixers from plastic containers will generate static electricity sparks and has caused fires in the coatings industry. While these fires are usually small and easily controlled, they have caused injury and death to employees. This potential hazard should be evaluated in all coatings plants.

GENERATION RATE

The most common generators of static electricity in the coatings industry are various processes involving flammable liquids. Static is generated when flowing liquids through pipes and in mixing, pouring, pumping, filtering, or agitating liquids. The rate of generation is dependent on the amount of turbulence in the liquid, the interfacial surface area of the liquid and its container, and the impurities in the liquid.

It is important that relative humidities be maintained above 30% wherever possible in processing flammable liquids. Below 30% relative humidity, generation of static electricity is enhanced. This is particularly important in the winter time when the humidity of outside air is extremely low. While humidification is important in this regard, it is not a substitute for acceptable bonding and grounding practices.

Although the generation of static electricity cannot be eliminated, the rate of generation can be greatly reduced through proper design of the following process systems:

1. *Piping Systems.* In piping systems the rate of electrostatic generation and the subsequent accumulation of static charge is a function of the flow rate, liquid velocity, pipe diameter, and pipe length. The best and most effective method of reducing the static generation rate in piping systems is proper pipe sizing to keep liquid velocities as low as practical. An acceptable maximum velocity in piping systems is 15 feet per second. Table 1 lists the flow rates for various pipe sizes for the maximum velocity of 15 feet per second.

2. *Filling Operations.* The turbulence experienced in filling operations caused by large flow rates, splashing or free falling flammable liquids greatly increases the static charge build-up beyond the level generated in the piping system. Splash filling and free fall should be eliminated to the greatest extent practical by lowering fill velocities and providing diverters to direct the discharge of flammable liquids down the side of the vessel being filled, or by submerging fill-pipes below the liquid level in the vessel.

The velocity of the liquid should not exceed 3 feet per second until the pipe outlet is well submerged by the liquid. After the pipe outlet is covered, the velocity may be increased to the 15 feet per second maximum mentioned previously. Table 1 lists the flow rates for various pipe sizes for the maximum velocity of 3 feet per second.

TABLE 1

Schedule 40 Pipe Size Diameter in Inches	Flow Rate GPM	
	With Liquid Velocity at 15 Ft./Sec.	With Liquid Velocity at 3 Ft./Sec.
1"	40	8
1-1/2"	95	19
2"	160	31
2-1/2"	220	45
3"	345	70
3-1/2"	460	93
4"	595	120

The generation of static electricity may also be reduced by the introduction of polar solvents first, before other solvents are added. This is due to polar solvents having a lower resistivity than non-polar solvents.

The introduction of an inert gas such as nitrogen into a ball or pebble mill will safeguard a flash fire from occurring if a static spark is discharged. This is a highly recommended practice. Having an inert gas generator on the premises is more economical than utilizing individual gas cylinders. Care must be exercised so that sufficient inert gas is injected to adequately displace the oxygen throughout the entire mill. When using nitrogen as the inerting agent, it is necessary to get the oxygen content down to a maximum of 8% by volume to prevent ignition.

Appendix A, entitled "Inert Gas Systems" of Standard 69, "Explosion Prevention Systems", published by the National Fire Protection Association can be used as a reference for the various factors involved in utilizing inert gas.

3. *Filtration.* Filters, because of their large surface area, can produce as much as 200 times more electrostatic charge than the same piping system without filtration. This hazard is controlled by installing filters far enough upstream of discharge points to provide a 30-second liquid relaxation time prior to discharge.

There are proprietary anti-static agents available which can be used as additives to solvents to reduce the rate of static generation. They are reported to be quite effective. Caution must be exercised so that the agent will not cause any problems with formulations.

DISSIPATION RATE

In addition to being dependent on the generation rate, the accumulation of static charge is a function of the resistance of the path by which the charge dissipates. Within the liquid, the dissipation of static electricity is dependent on a property of the liquid known as resistivity. Since most petroleum products are in the range of resistivities for static generation and accumulation, proper control measures should be followed for all flammable solvents.

In order to control the hazard of static electricity it is also necessary to conduct away charges which build-up on process equipment at container-liquid

interfaces. The most common means of dissipation is to provide a path through which the charge is conducted to the earth. This requires that the charge travel through the liquid, the vessel itself, and the bonding and grounding system to earth. A bonding system connects various bodies together with conductors so that there will be an equalization of charge between them. A grounding system connects a body to the earth with a conductor so the charge can flow freely to earth.

Bonding and grounding is a very effective and economical way to reduce the hazard of static electric ignition potential. Proper combinations of bonding and grounding prevent the build-up of charge or potential difference between pieces of equipment or supporting structures which would be capable of causing a static spark.

The need for bonding and grounding in solvent dispensing operations is obvious; however, there are some less obvious but equally important static generating processes that need similar attention. Dispensing operations in the coatings industry are prolific static generators. Too frequently fires have occurred in ball mills or pebble mills "for apparently no reason". The introduction of impurities, especially solids, in a flammable liquid may increase the liquids' ability to generate static electricity. The intentional agitation of these mixtures in the variety of dispersion equipment generates copious amounts of electrostatic charge capable of causing static sparks. Since it is not feasible to reduce the generation rate in dispersing operations, it is extremely important that this generated charge be conducted to ground. Other coatings industry processes such as mixing, thinning, tinting, etc., when liquids are agitated, create similar needs for adequate bonding and grounding of equipment.

Ball mills will bleed off a static charge through the body of the mill. Pebble mills by their nature of having a porcelain lining, will insulate the static charge from bleeding off. With a static charge present inside the mill, any introduction of a grounded object such as a conductive hose or a grounding probe will very likely cause a spark to occur with a resulting flash fire. For this reason, only non-conductive hose should be used unless the pebble mill is adequately inerted.

The design and installation of bonding and grounding systems requires careful attention that a continuous, low resistance path is established to remove charge from all parts of process equipment. The resistance of this path should be no more than

25 ohms to avoid static build-up to a dangerous level. To accomplish this design criteria, *all areas of process systems separated by non-conductors such as non-metallic non-conductive piping, hoses, flexible connections, or equipment supports should have bonding provided.* Bonding and grounding conductors must be low resistance and durable. Connections of bonding conductors to process equipment must be direct and positive.

For portable bonding and grounding connections, stainless steel aviation type flexible cable and single point type clamps should be utilized. This cable is an excellent durable conductor and these clamps will make contact with metal surfaces through paint, rust or other surface contaminants. The single point type clamps are superior to battery type and "alligator" type clamps for direct contacting.

This bulletin contains drawings of standard assemblies and typical arrangements for electrically bonding and grounding equipment which should be used in plants wherever solvents are handled. These assemblies and arrangements are a practical approach for eliminating the dangerous accumulations of static electricity.

Additional information on static electricity is available from the following publications: National Fire Protection Association Standard No. 77, "Recommended Practice on Static Electricity"; and American Petroleum Institute's RP 2003, "Recommended Practice for Protection Against Ignition Arising Out of Static, Lightning, and Stray Currents". These publications are available from:

National Fire Protection Assn.
470 Atlantic Avenue
Boston, Massachusetts 02210
617-482-8755

American Petroleum Institute
2101 L Street, N.W.
Washington, D.C. 20006
202-457-7000

The DuPont Corporation has some programmed instruction courses which can be valuable as either reference material or directly in the training of employees. They are available as follows:

Vocational Training #86 "Electricity--Control of Static Electricity"—\$7.25

Safety Training
#564 "Static Grounding" (Leader's Guide)—\$1.75
#565 "Static Grounding" (Course)—\$1.50

Order From:

E. I. duPont de Nemours & Co. (Inc.)
Applied Technology Division
Room N-10404
Wilmington, Delaware 19898

MAINTENANCE OF BONDING AND GROUNDING EQUIPMENT

The proper installation of bonding and grounding equipment as outlined above is an important step forward in the protection of personnel and equipment. However, not only is a resistance test necessary at the time of installation to confirm the effectiveness of the ground, but also an effective inspection and maintenance program is required to insure continued adequacy of the bonding and grounding equipment.

In evaluating maintenance requirements for this equipment, the bonding and grounding system can be divided into three separate components:

- (1) the spring point-type clamp-equipped flexible leads used for temporary bonding of portable containers to the building ground systems,
- (2) the fixed wiring and bus bars used to connect flexible leads and fixed equipment to ground, and
- (3) the ground itself.

The flexible leads are subject to mechanical damage and wear, as well as corrosion and general deterioration. For this reason, they should be visually inspected for physical condition at least weekly by the production supervisor in each area. This inspection should evaluate cleanliness and sharpness of the clamp points, stiffness of the clamp springs, evidence of broken strands in the cable, and solidity of cable attachments. A more thorough inspection should be made quarterly by the maintenance department, using an ohmmeter with a minimum accuracy of +3% to test ohmic resistance and continuity of the grounding circuits.

The ohmmeter should be connected first to the bonding clamp to check for electrical continuity and to determine the electrical resistance to the grounding system. Then the ohmmeter should be connected directly to the portable metallic container being checked and the metallic piping or other fixed equipment to check the resistance of the connection between the portable tank and the bonding clamp. Be sure to provide a clean spot on the container on which to affix the ohmmeter lead.

The fixed leads and bus bars are not generally as subject to injury or wear as the temporary connectors. These should be spot-checked with an ohmmeter with test locations selected so that the main components of the system are checked quarterly and *all* branches are checked annually. Fixed leads used to bond movable equipment to stationary equipment, such as the head of a dispersion grinder to its pedestal or set tank, should be inspected and tested as though they were temporary flexible leads.

Conductive hoses must be checked for electrical continuity and resistance. The conductive segments may break and not be repaired properly thus rendering the hoses non-conductive or with an abnormally high resistance.

The final component of the system is the ground terminal itself. This may be a device installed solely for grounding purposes, such as a driven rod or buried plate, or it may be underground metal water pipes. Underground piping equipped with cathodic protection is not a suitable ground.

Underground piping may be made of cement-asbestos or plastic which would not be satisfactory as a ground. It is also possible for metal piping to have sections of plastic or cement-asbestos which would make it unsatisfactory. Water meters should have permanently installed jumper cables installed around them to provide a continuous electrical path. When underground piping is utilized as a ground, remember that any disconnections for alterations or repair may make the grounding system ineffective.

If a building has a steel structural frame, it can be used as a path to ground for the grounding system provided the resistance to ground of the completed

bonding and grounding system is less than 25 ohms. Sprinkler piping and electrical conduit should be avoided due to the increased resistance to ground caused by joints and connectors. A break in continuity can also result when piping and conduit are removed for repair or alterations.

The best way to provide a path to ground is to utilize a ground bus as illustrated in the diagrams in this bulletin.

Caution must be exercised in the installation of a static grounding system not to use as a ground the neutral conductor of the electric current carrying system. Fires caused by electric arcing from current feedback through the grounding system have occurred in plants where static control grounds were tied into the electrical system neutrals.

Testing of these grounds requires specialized equipment, such as a low-reading "Megger" or "Vibroground" tester. The "Megger" is available from the James G. Biddle Company, Township and Jolly Road, Plymouth Meeting, Pennsylvania 19462. The "Vibroground" is available from Associated Research, Inc., 6125 West Howard Street, Chicago, Illinois 60648.

After initial testing, the grounding system and all systems using the metal water pipes for grounding purposes, should be tested annually for a resistance to ground of 25 ohms or less. Grounding systems using specially installed grounding devices which have been tested annually for five years, and evidenced a resistance of less than 20 ohms with no tendency toward increasing values, need be tested only at five year intervals.

Remember: The only *safe* ground system is a *tested* ground system!

The information contained in this Scientific Circular has been approved by the Occupational Safety Task Force of the National Paint and Coatings Association. For the drawing reproduced herein, and used by their permission, credit is given to the Sherwin-Williams Company.

CONTENTS

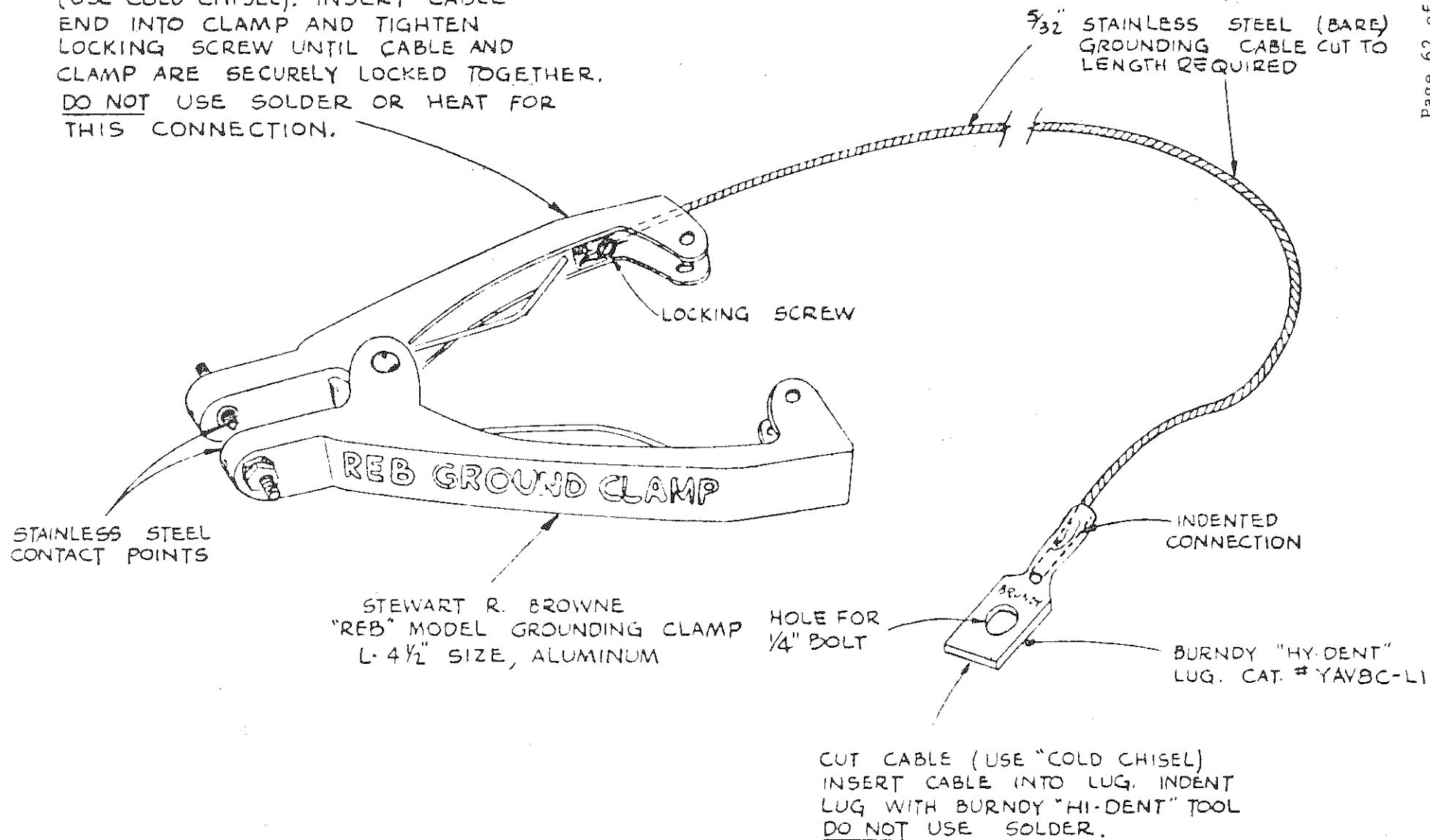
Standardization and Assembly of Static Grounding Components

- SA-1 Small Ground Clamp
- SA-2 Large Ground Clamp
- SA-3 Pipe Grounding Tab
- SA-4 Pipe Grounding Bus
- SA-5 Ground Connection of Building Ground Bus
- SA-6 Permanent-Fixed Equipment Ground to Building Ground Bus
- SA-7 Grounding "Tap" Connection to Building Ground Bus
- SA-8 Building Ground Bus Extension to Portable Solvent Container
- SA-9 Pipe Grounding Jumper
- SA-10 Building Ground Bus Support to Existing Building Steel
- SA-11 Building Ground Bus Support on Brick or Concrete

Typical Standard Arrangements; Static Grounding Component Assemblies

- TA-1 Solvent Handling, Large Container Grounding
- TA-2 Solvent Handling, Small Container Grounding
- TA-3 Tank Drop Valve Grounding
- TA-4 Grounding System, Solvent Drop Station
- TA-5 Grounding of "Pressure-Pot" Solvent Wash Unit
- TA-6 Grounding of Small Volume Solvent Handling
- TA-7 Grounding of Typical Laboratory Mixing Unit
- TA-8 Grounding of Portable Tank and Drum Washing Area
- TA-9 Grounding of Hand Pump, Small Volume Solvent Handling
- TA-10 Grounding of "Fixed" Thinning or Mixing Equipment
- TA-11 Grounding of Typical Tank Car or Truck Loading/Unloading Station
- TA-12 Grounding on "Vorti-Siv" Screening Machine
- TA-13 Grounding of Portable Material Transfer Chute
- TA-14 Grounding of 55 Gallon Drums in Storage Rack
- TA-15 Grounding of Ball Mill Charging Fitting
- TA-16 Grounding of Ball Mill or Cowles Unit

CUT CABLE TO LENGTH REQUIRED
(USE "COLD CHISEL"). INSERT CABLE
END INTO CLAMP AND TIGHTEN
LOCKING SCREW UNTIL CABLE AND
CLAMP ARE SECURELY LOCKED TOGETHER.
DO NOT USE SOLDER OR HEAT FOR
THIS CONNECTION.



ALWAYS TEST FOR GROUND CONTINUITY

SMALL GROUND CLAMP
STANDARD ASSEMBLY

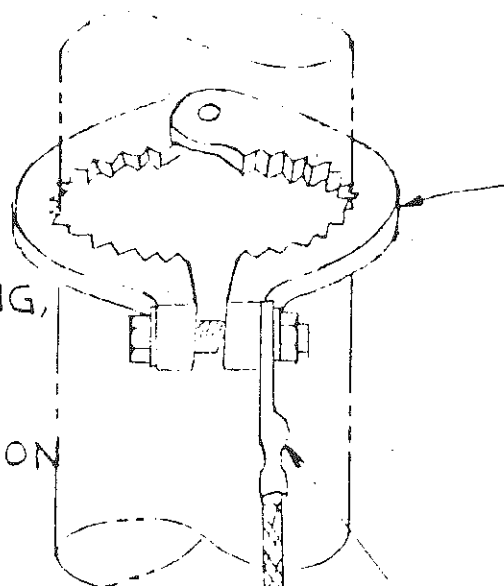
SA-1

STANDARD ASSEMBLY NO. 1

PIPE FASTENED TO GROUNDED
EQUIPMENT

NOTE! IMPORTANT!

GROUND CONTINUITY OF ALL PIPING,
EQUIPMENT DEVICES, CABLES AND
CONNECTIONS MUST BE CHECKED
WITH AN APPROVED CONTINUITY
TESTER AT THE TIME OF INSTALLATION
AND PERIODICALLY THEREAFTER.



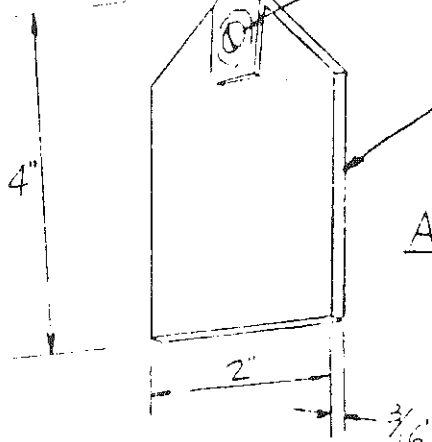
STEWART R BROWNE
MODEL JR - 150
PIPE CLAMP OF
SIZE REQUIRED
(SIZES FROM 1" TO 14" IPS)

$\frac{1}{4}$ " CALSUN-BRONZE (BARE)
GROUNDING CABLE OF
REQUIRED LENGTH

BURNDY "HYLUG"
CAT. # YAGC-L

$\frac{1}{4}$ " BOLT, NUT & WASHERS

METAL GROUNDING TAB
2" WIDE \times 4" LONG \times $\frac{3}{16}$ " THICK
(STEEL, COPPER OR ALUMINUM)
FOR ATTACHMENT OF PORTABLE
GROUNDING CLAMPS

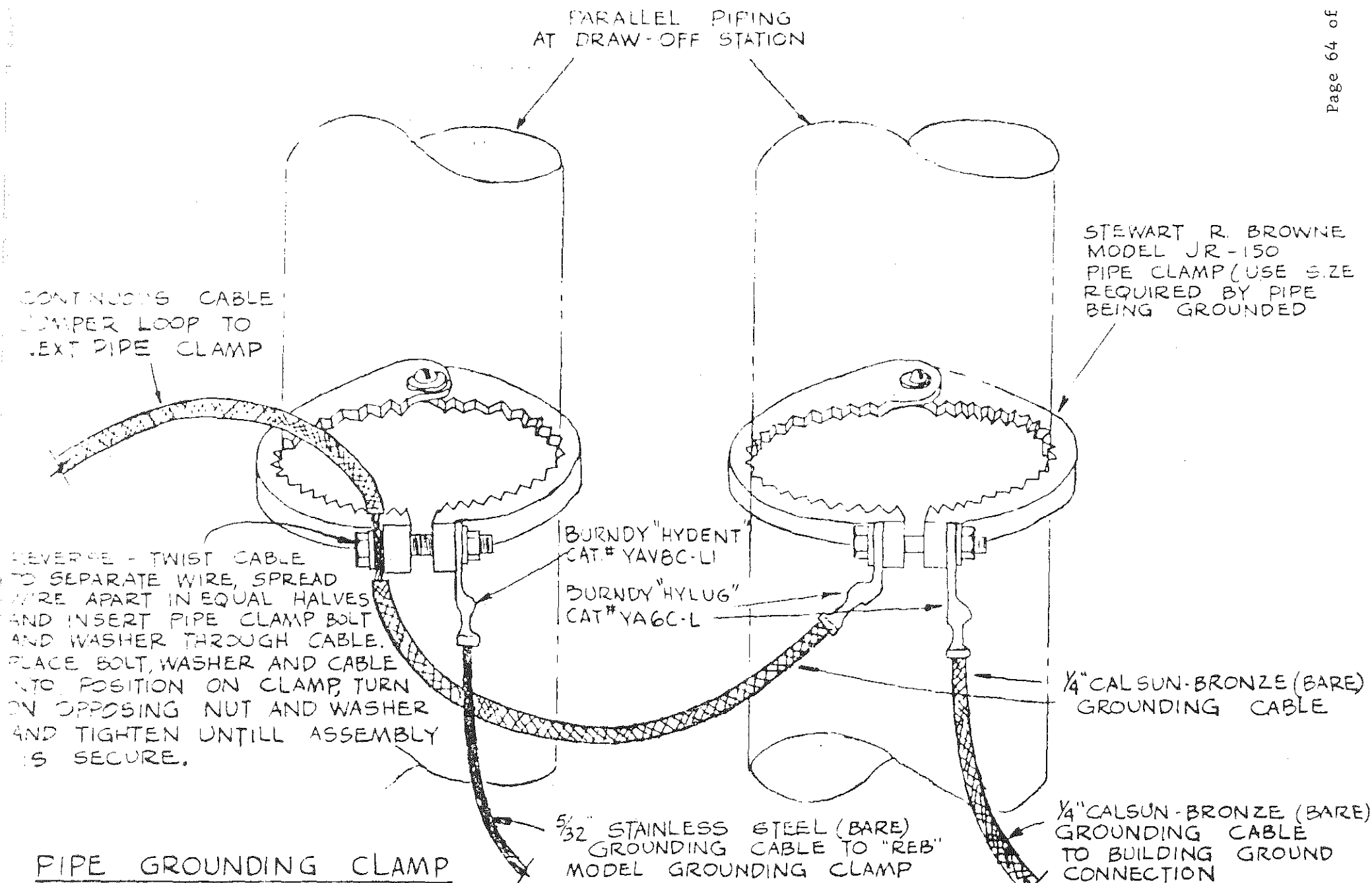


ALWAYS TEST FOR
GROUND CONTINUITY

PIPE GROUNDING TAB
STANDARD ASSEMBLY

SA-3

STANDARD ASSEMBLY NO. 3



PIPE GROUNDING CLAMP
STANDARD ASSEMBLY

ALWAYS TEST FOR GROUND CONTINUITY

SA-4

STANDARD ASS BLY NO. 4

1/0-1/2 STRANDED, TYPE TW 600VOLT WIRE
BUILDING STATIC GROUNDING "BUS"
STANDARD ARRANGEMENT, ROUTED
AS CLOSE TO GROUNDING POINT
AS POSSIBLE

1/4"-20 WALL ANCHOR, BOLT
AND WASHER

BURNDY "HYLUG"
CAT.#YAGC-LI

ALTERNATE GROUND CAN BE
BUILDING COLD WATER PIPE
(SHALL BE "MAIN" PIPE OF AREA
AND NOT EXTENSION OF "MAIN")

1/2" 20AJ WALL ANCHOR,
#8 CAT.#4175 PIPE STRAP
AND 1/4"-20 BOLT

BURNDY "HYLUG"
CAT.#YA25L4

1/4" CALSUN-BRONZE (BARE)
GROUND-CABLE OF
REQUIRED LENGTH

BURNDY "HYLUG"
CAT.#YAGC-LI

WEAVER #5 5/8 GROUND
ROD CONNECTOR

5/8" COPPERWELD, BRONZE OR
STAINLESS STEEL GROUND ROD
8'-0" LONG, DRIVEN INTO EARTH
AT BUILDING.

STEWART R. BROWNE
TYPE JR-150 BRONZE
PIPE CLAMP OF SIZE
REQUIRED

APPROX.
6"

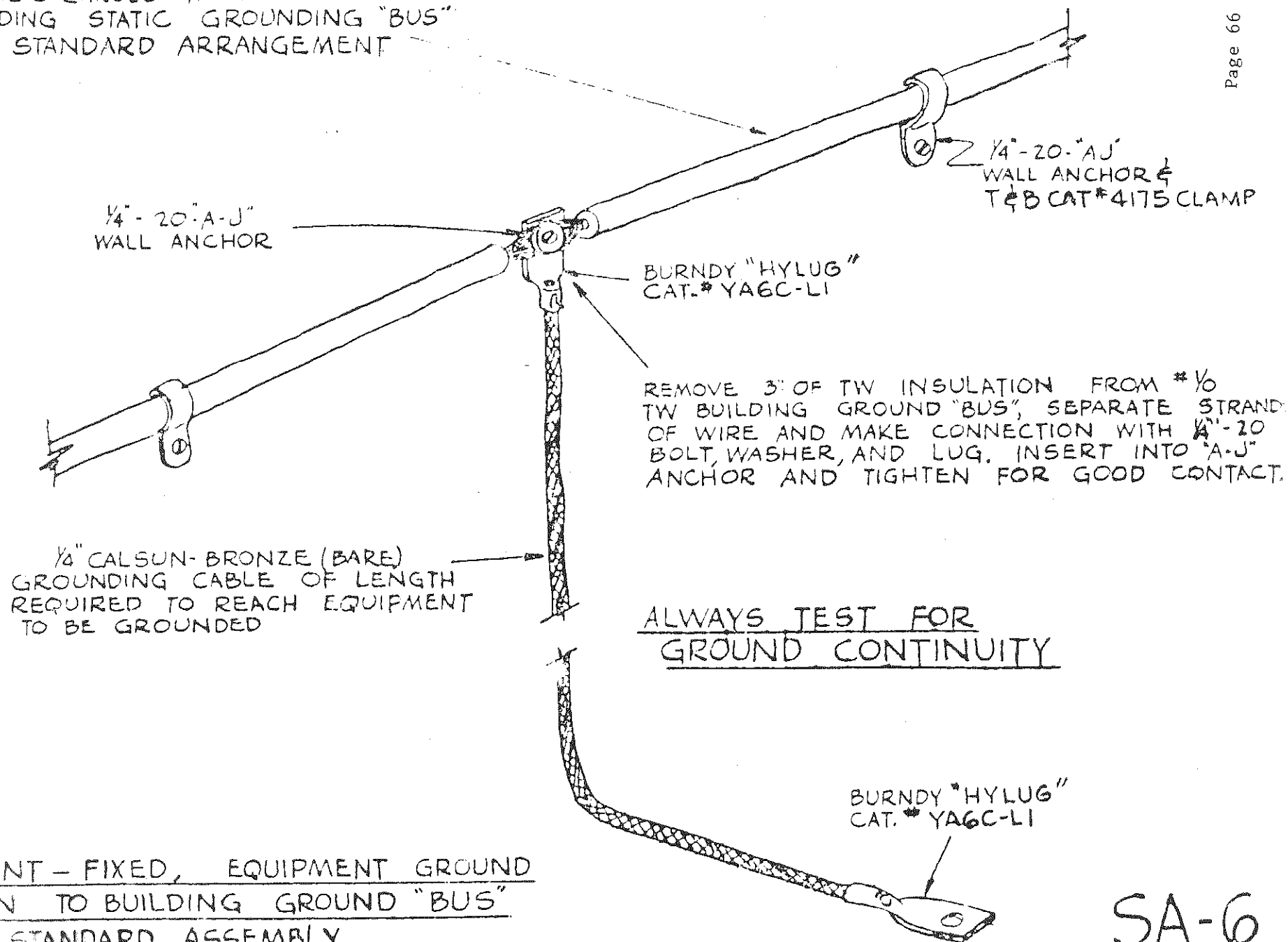
ALWAYS TEST FOR
GROUND CONTINUITY

GROUND CONNECTION OF BUILDING
GROUND BUS - STANDARD ASSEMBLY

SA-5

STANDARD 4-10V NO.5

#1/6-1/2 STRANDED TYPE TW 600V WIRE
BUILDING STATIC GROUNDING "BUS"
STANDARD ARRANGEMENT



PERMANENT - FIXED, EQUIPMENT GROUND
EXTENSION TO BUILDING GROUND "BUS"
STANDARD ASSEMBLY

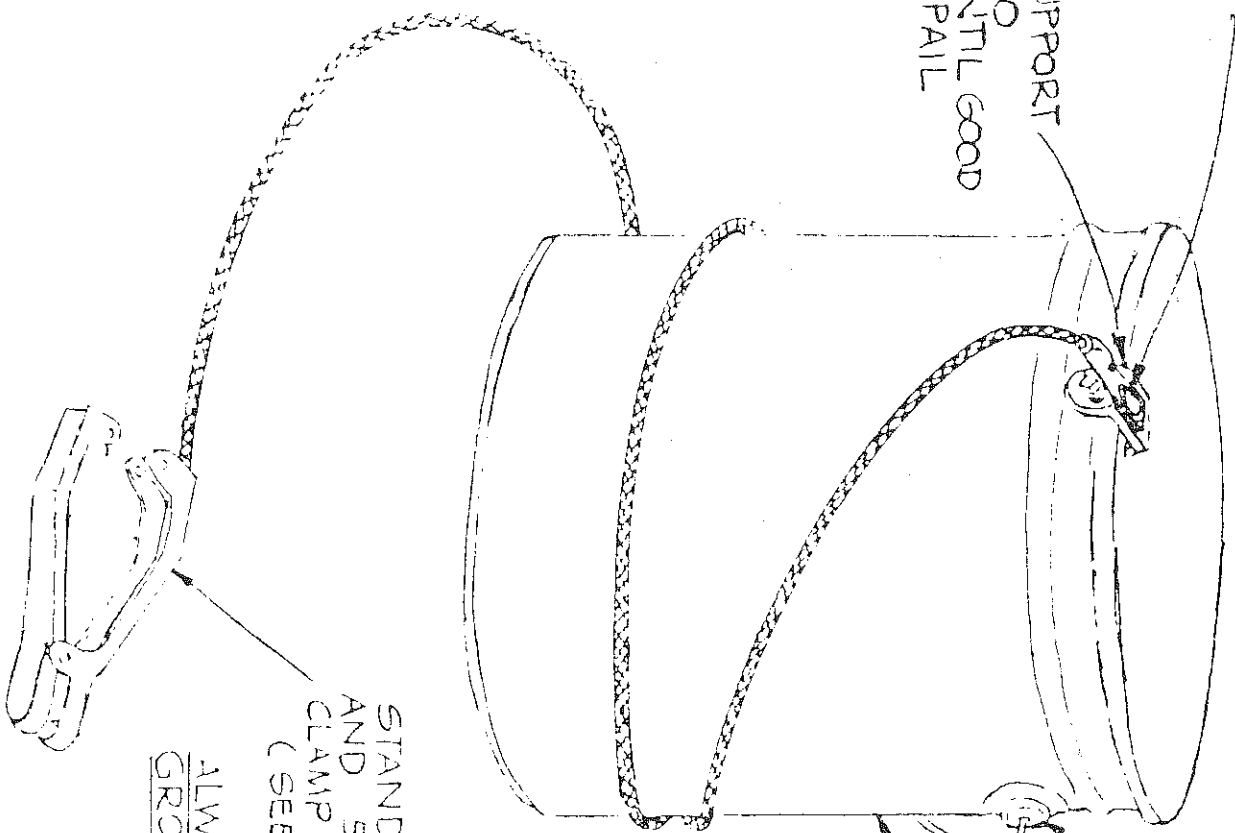
SA-6

STANDARD ASSEMBLY NO. 6

USE OF NON-STANDARD, NON-GROUNDED CONTAINERS IS PROHIBITED

FASTEN LUG WITH
1/4"-20 BOLT & WASHER

VERSAL "INSULATOR SUPPORT
EAM CLAMP) CAT # 500
GHTEN SET SCREW UNTIL GOOD
CONTACT IS MADE WITH PAIL



REMOVE STANDARD PLASTIC OR
WOOD GRIP FROM PAIL

STANDARD 5 GALLON PAINT CAN,
COATED WITH SPECIAL SOLVENT
RESISTING PAINT OF DISTINCTIVE
RED COLOR. INTERIOR OF
CONTAINER SHALL BE UNCOATED

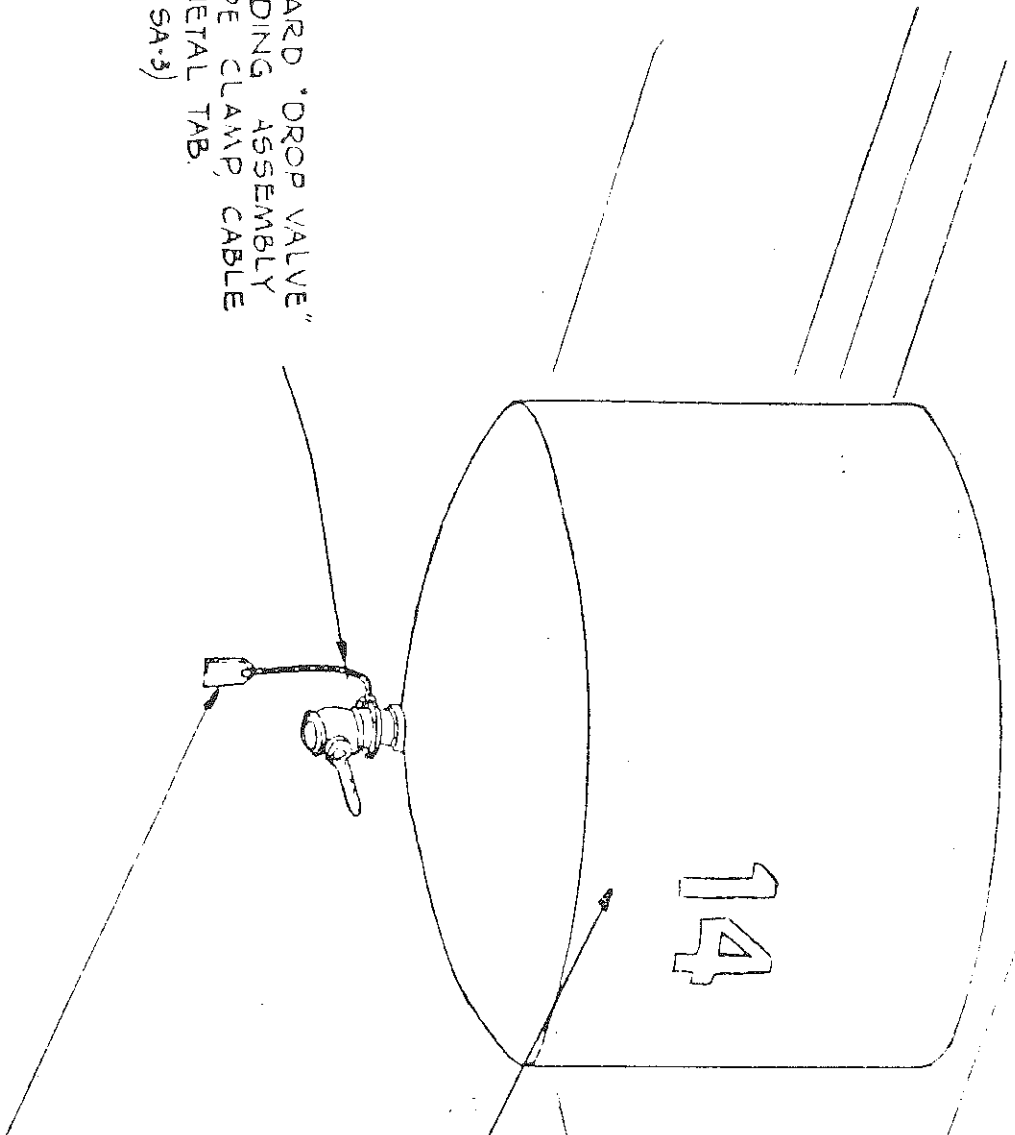
STANDARD SMALL GROUNDING CLAMP
AND 5'-0" LONG CABLE WITH LUG &
(SEE SA-1)

ALWAYS TEST FOR
GROUND CONTINITY

SPECIAL SMALL CHANGE CAN GROUNDING ARRANGEMENT
BE PROVIDED TO ALL DEPARTMENTS FOR SOLVENT HANDLING

TA-2

STANDARD "DROP VALVE"
GROUNDING ASSEMBLY
OF PIPE CLAMP, CABLE
AND METAL TAB.
(SEE SA-3)



THINNING OR MIXING EQUIPMENT
GROUNDING ASSEMBLY
GROUND BUS ON FLOOR ABOVE

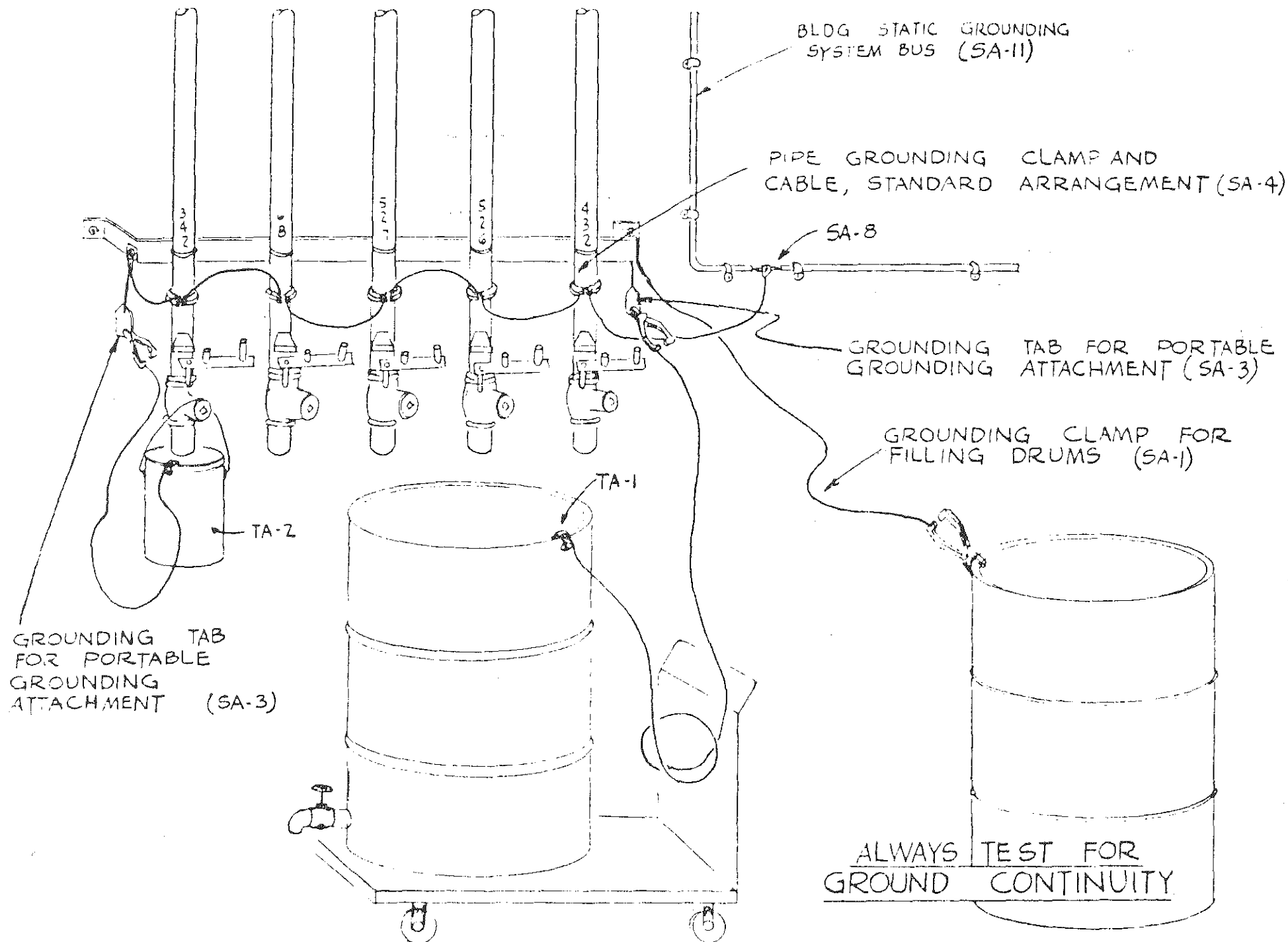
ATTACH GROUNDING CLAMPS OF PIPE, CHUTES
OR HOSES USED TO ROUTE BATCH DOWN TO
THINNING TANK OR FILLING MACHINE
TO THESE GROUNDING TABS.

ALWAYS TEST FOR
GROUND CONTINUITY

TYPICAL GROUNDING ARRANGEMENT AT "DROP VALVE"
OF THINNING OR MIXING TANK

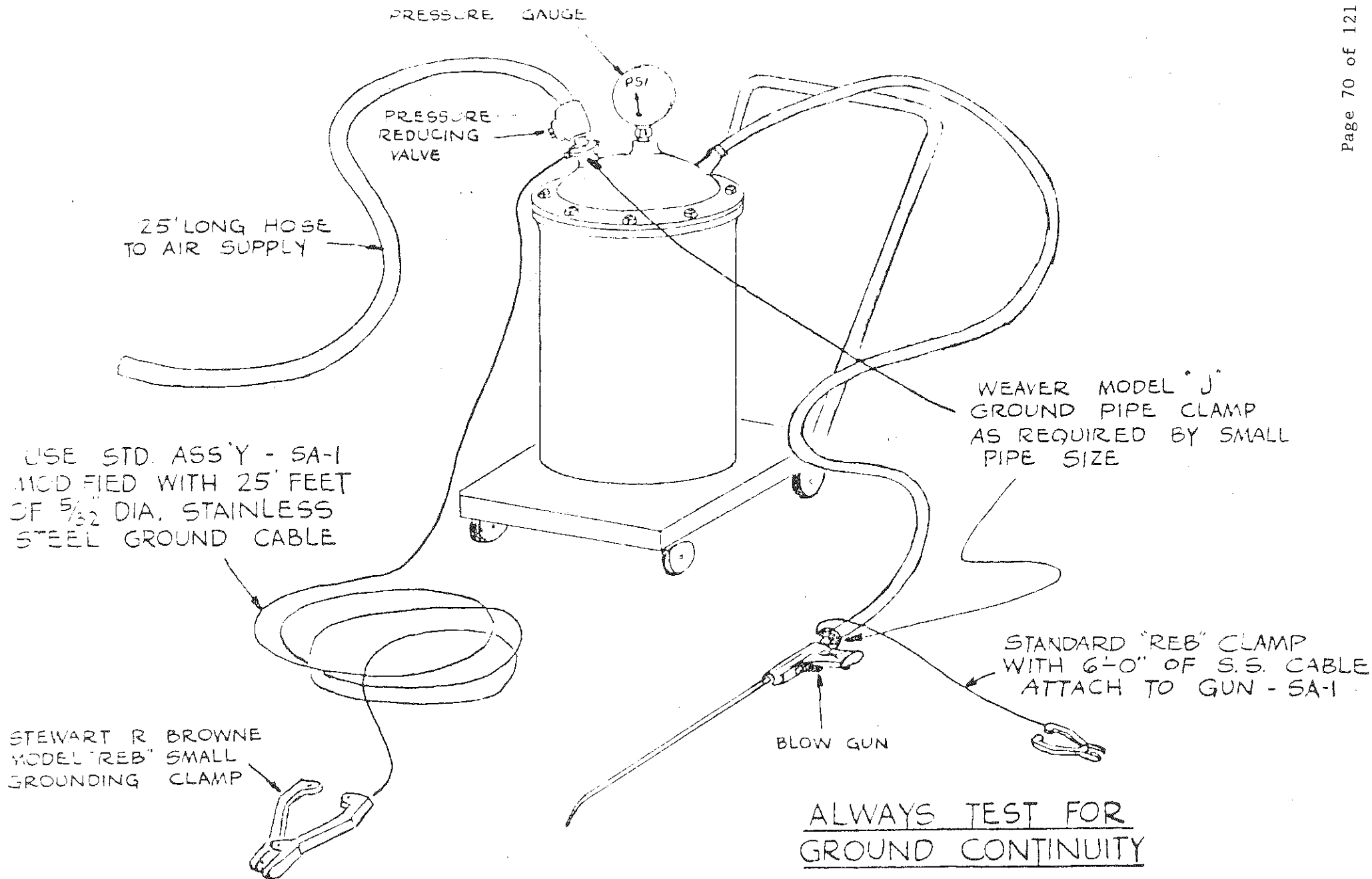
TYPICAL ARRANGEMENT NO. 3

TA-3



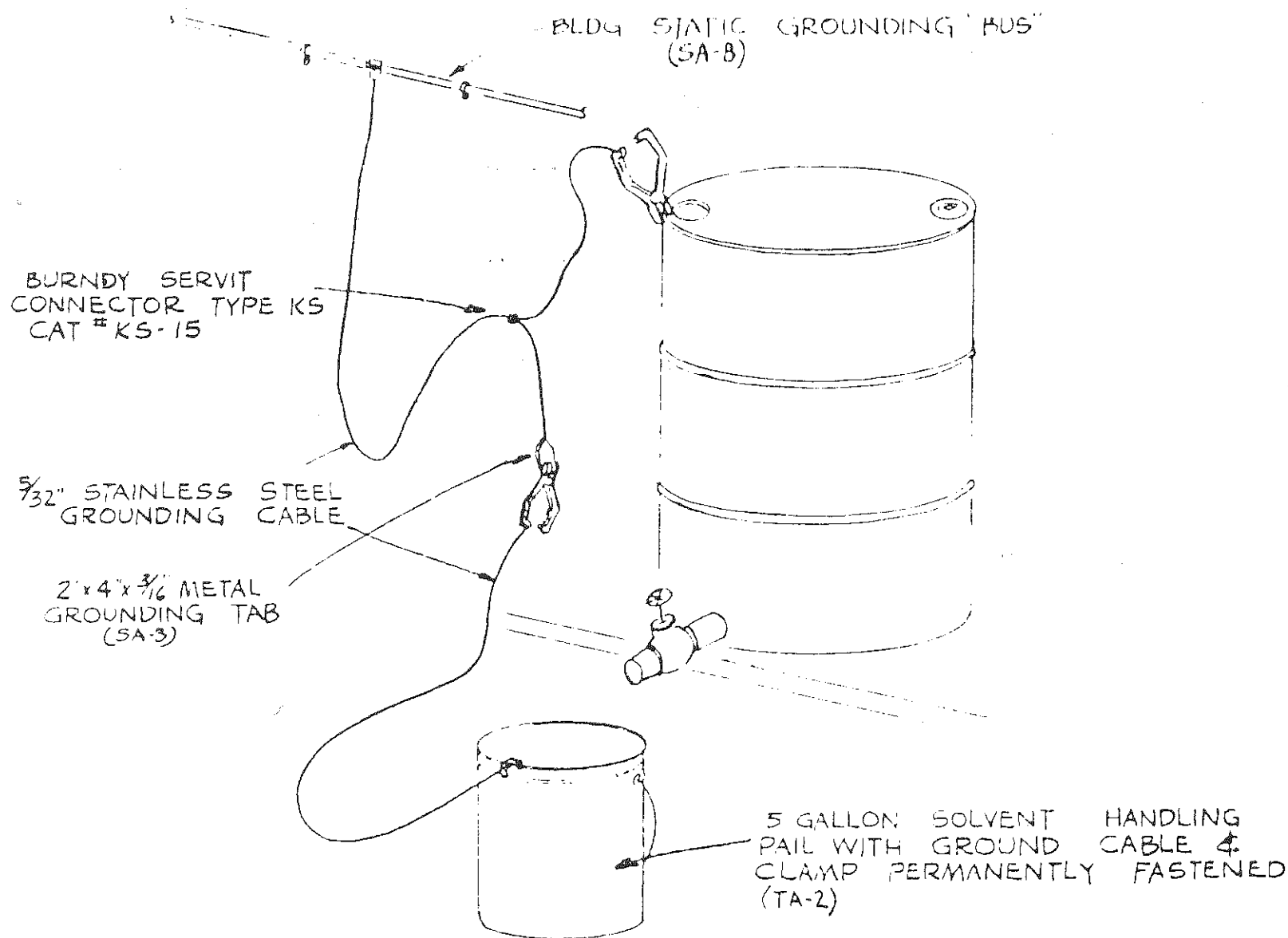
TYPICAL GROUNDING SYSTEM FOR MULTI-SOLVENT DROP STATION TRANSFER POINT

TA-4



TYPICAL ARRANGEMENT - STANDARD STATIC GROUNDING
OF PRESSURE POT SOLVENT WASH UNIT

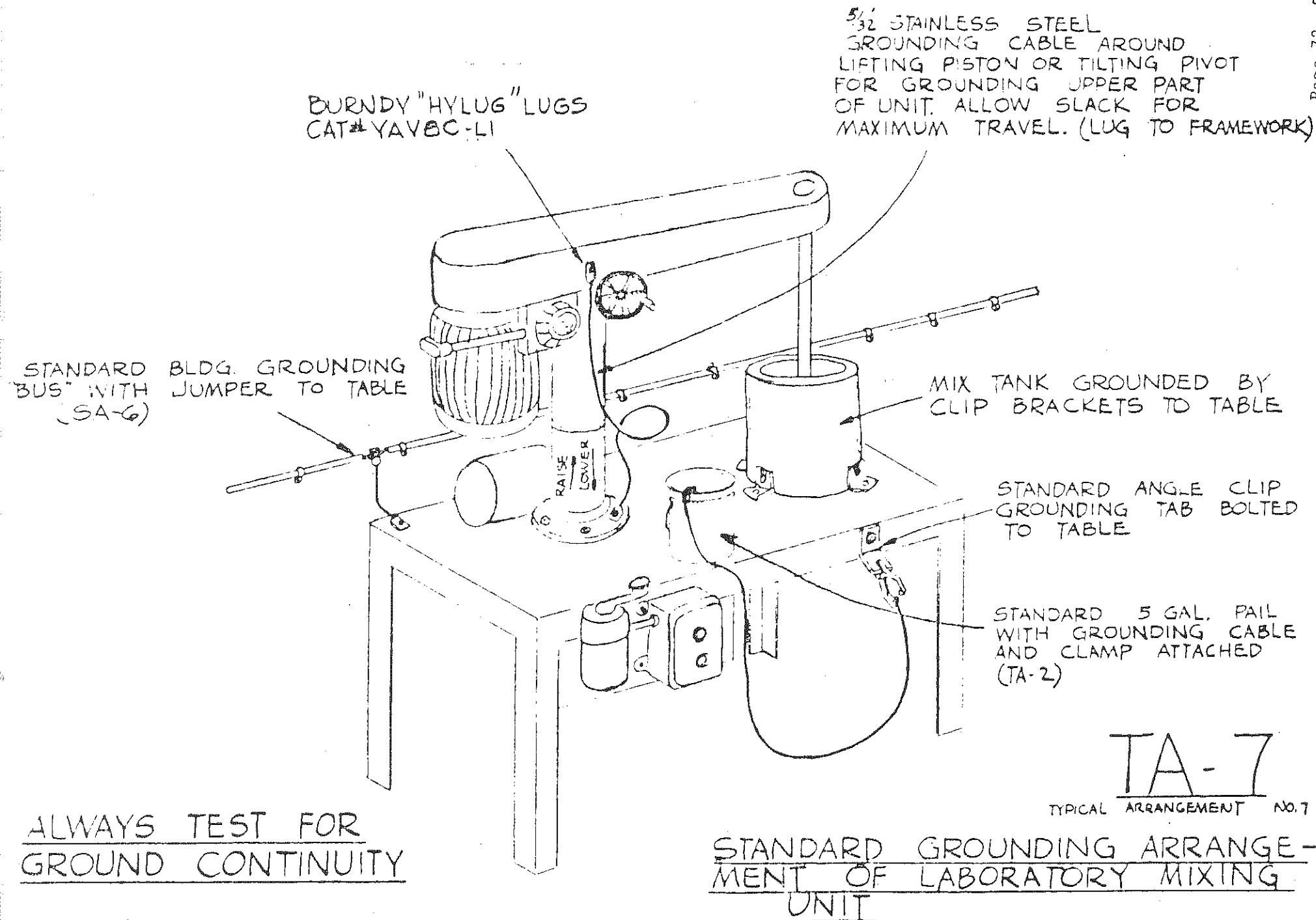
TA-5
TYPICAL ARRANGEMENT NO. 5



ALWAYS TEST FOR GROUND CONTINUITY

TYPICAL GROUNDING SYSTEM FOR SMALL
VOLUME SOLVENT HANDLING

TA-6
TYPICAL ARRANGEMENT NO. 6



STANDARD ARRANGEMENT
OF #10 STRANDED TW WIRE
BUILDING GROUND BUS

BENJAMIN CO. PORTABLE
GROUNDING REEL, SERIES 200, 20
GOR WITH 20' OF 5/32 DIA. STAINLESS
STEEL CABLE, RATCHET LATCHING

BURNDY TYPE "KS"
SERVIT. CONNECTOR
CAT. #KS-15

STANDARD WALL
MOUNTED
GROUNDING TAB
(SA-7)

GROUNDING TAB

STANDARD SMALL
GROUNDING CLAMP

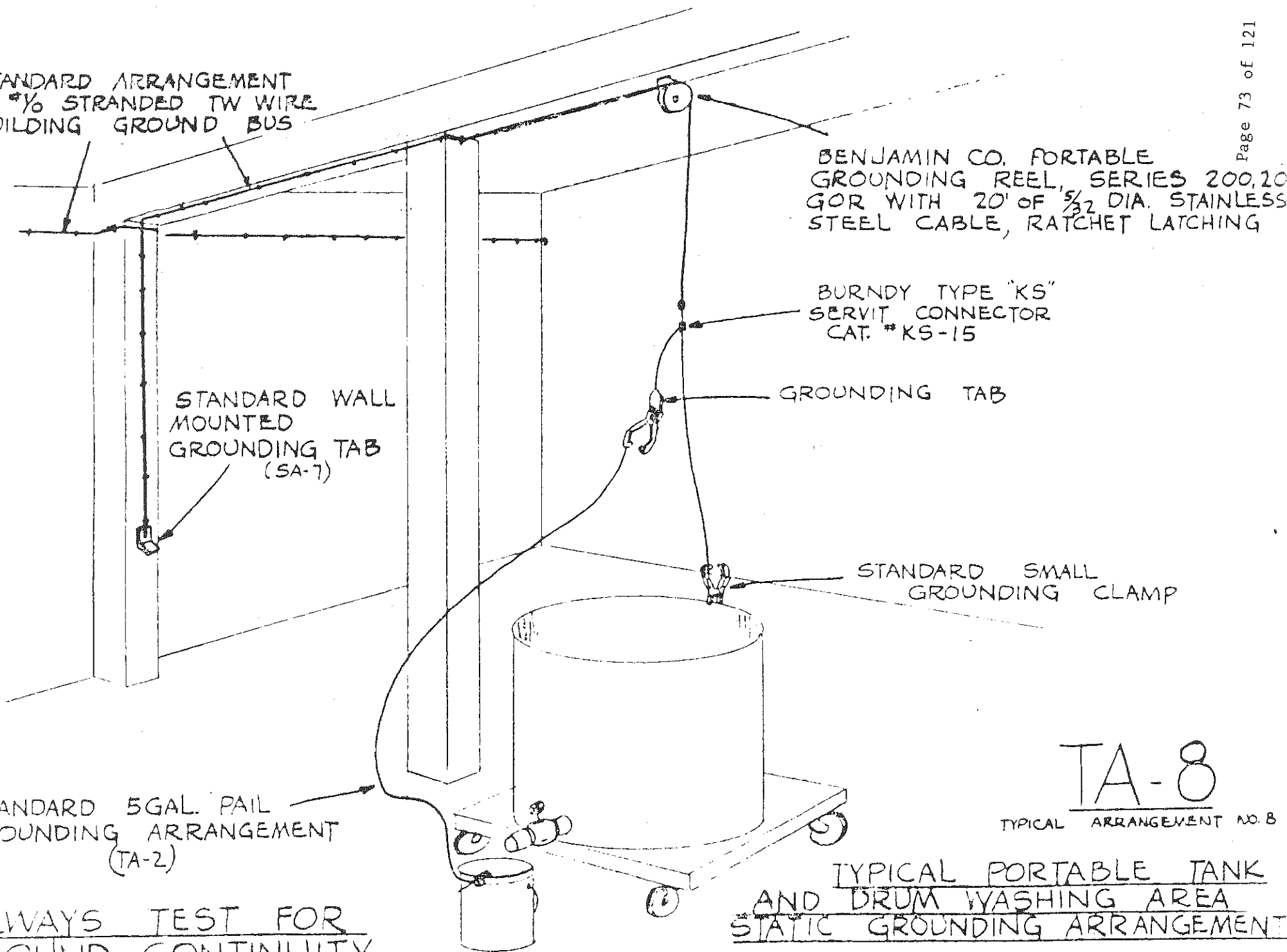
STANDARD 5GAL. PAIL
GROUNDING ARRANGEMENT
(TA-2)

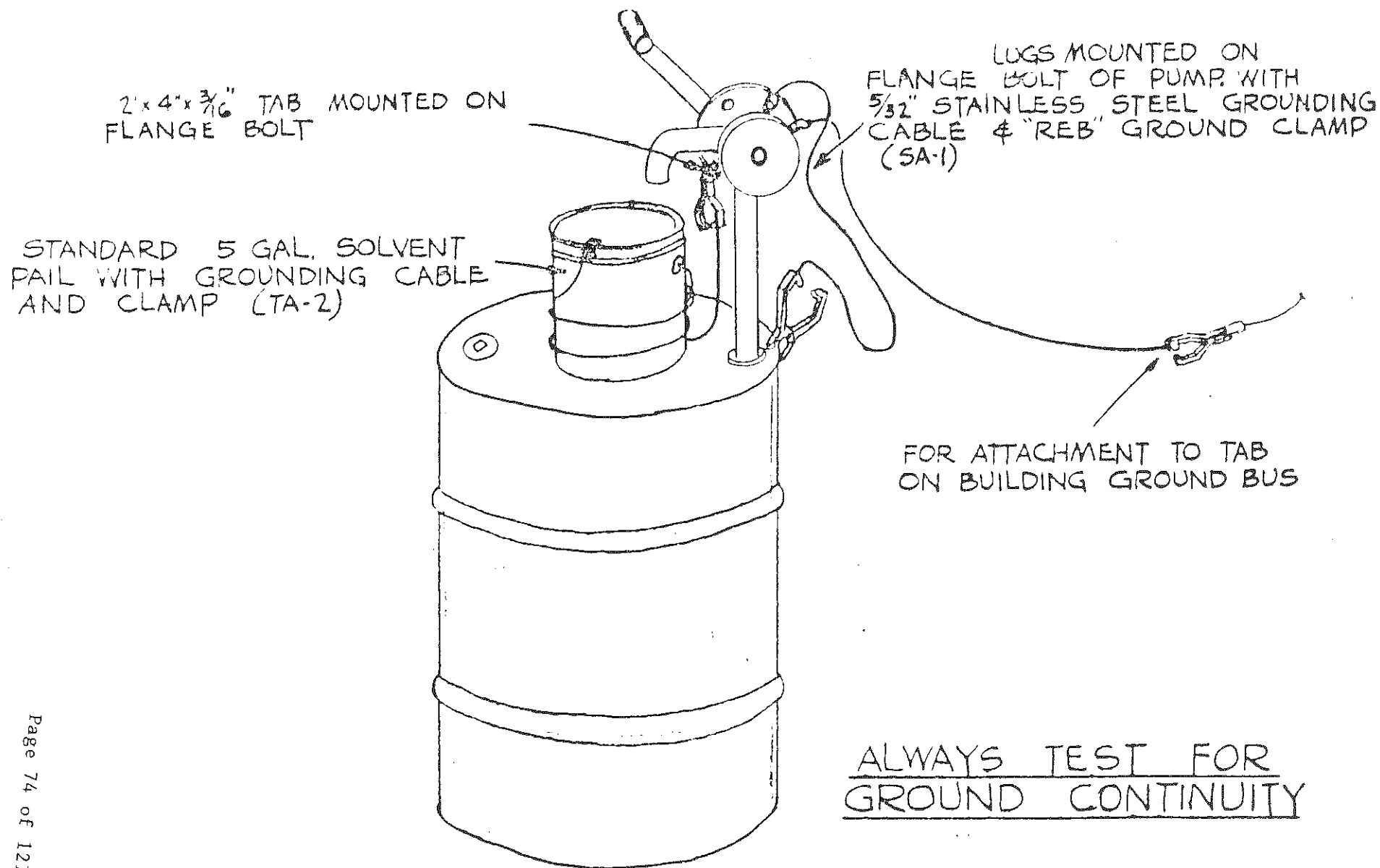
TA-8

TYPICAL ARRANGEMENT NO. 8

ALWAYS TEST FOR
GROUND CONTINUITY

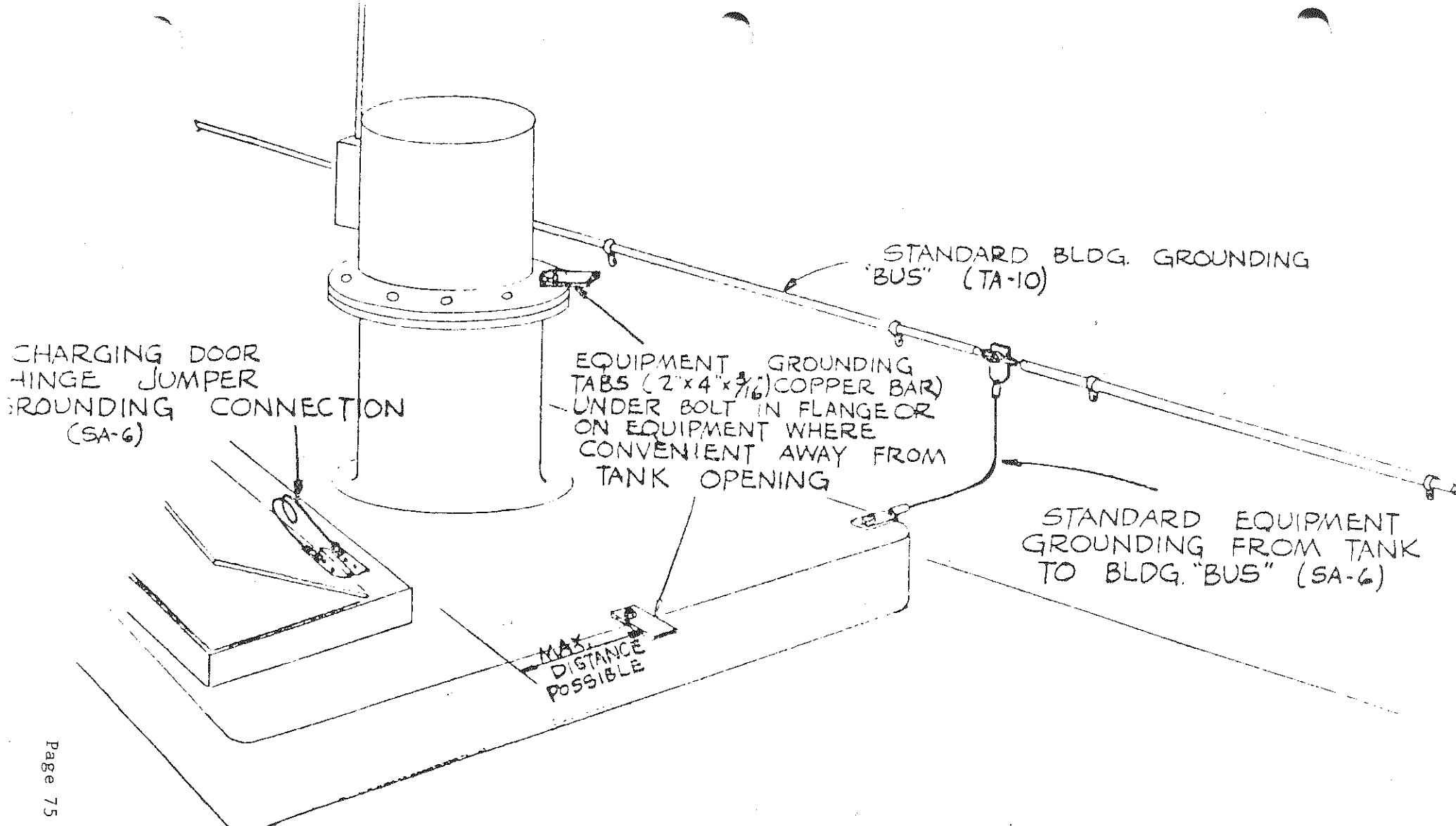
TYPICAL PORTABLE TANK
AND DRUM WASHING AREA
STATIC GROUNDING ARRANGEMENT





TYPICAL GROUNDING SYSTEM FOR SMALL VOLUME SOLVENT HANDLING

TA-9
TYPICAL ARRANGEMENT NO. 9

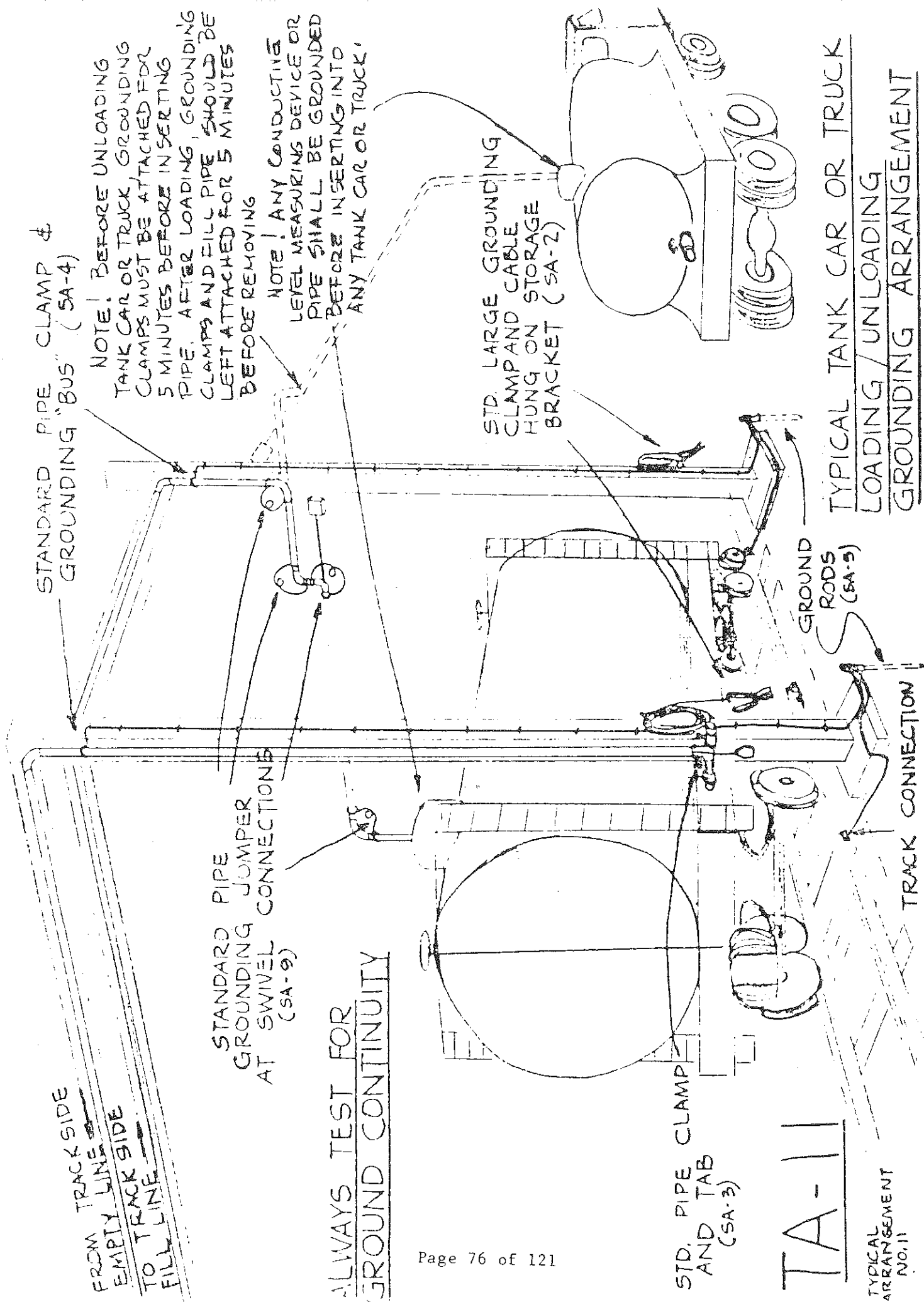


ALWAYS TEST FOR GROUND CONTINUITY

TYPICAL GROUNDING SYSTEM STANDARD ARRANGEMENT AT THINNING OR MIXING EQUIPMENT

TA-10

TYPICAL ARRANGEMENT NO.10



NOTE! BEFORE UNLOADING TANK CAR OR TRUCK, GROUNDING CLAMPS MUST BE ATTACHED FOR 5 MINUTES BEFORE INSERTING PIPE. AFTER LOADING, GROUNDING CLAMPS AND FILL PIPE SHOULD BE LEFT ATTACHED FOR 5 MINUTES BEFORE REMOVING

NOTE! ANY CONDUCTING LEVEL MEASURING DEVICE OR PIPE SHALL BE GROUNDED BEFORE INSERTING INTO ANY TANK CAR OR TRUCK.

STD. LARGE GROUNDING CLAMP AND CABLE HUNG ON STORAGE BRACKET (SA-2)

STANDARD PIPE CLAMP & GROUNDING "BUS" (SA-4)

STANDARD PIPE GROUNDING JUMPER AT SWIVEL CONNECTIONS (SA-9)

GROUND RODS (SA-5)

TRACK CONNECTION!

TYPICAL TANK CAR OR TRUCK LOADING / UNLOADING GROUNDING ARRANGEMENT

ALWAYS TEST FOR GROUND CONTINUITY

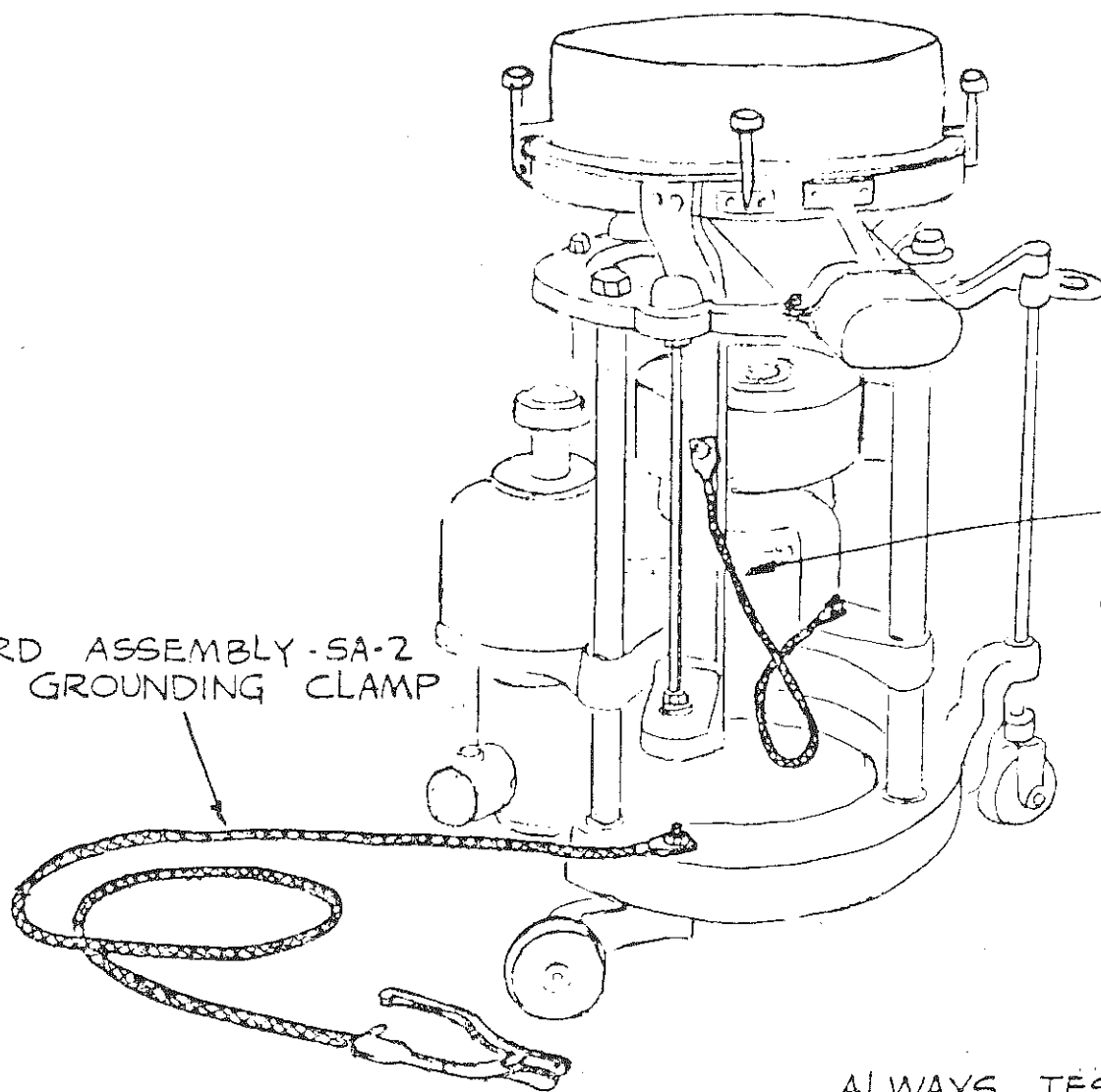
STD. PIPE CLAMP AND TAB (SA-3)

TA-11

TYPICAL ARRANGEMENT NO. 11

STANDARD ASSEMBLY-SA-2
LARGE GROUNDING CLAMP

1/4" CALSUN BRONZE CABLE
WITH LUG FOR GROUNDING
OF VIBRATING SECTION
(FASTEN UNDER EXISTING
BOLTS AND ALLOW SLACK
TO ABSORB VIBRATION)



ALWAYS TEST FOR CONTINUITY

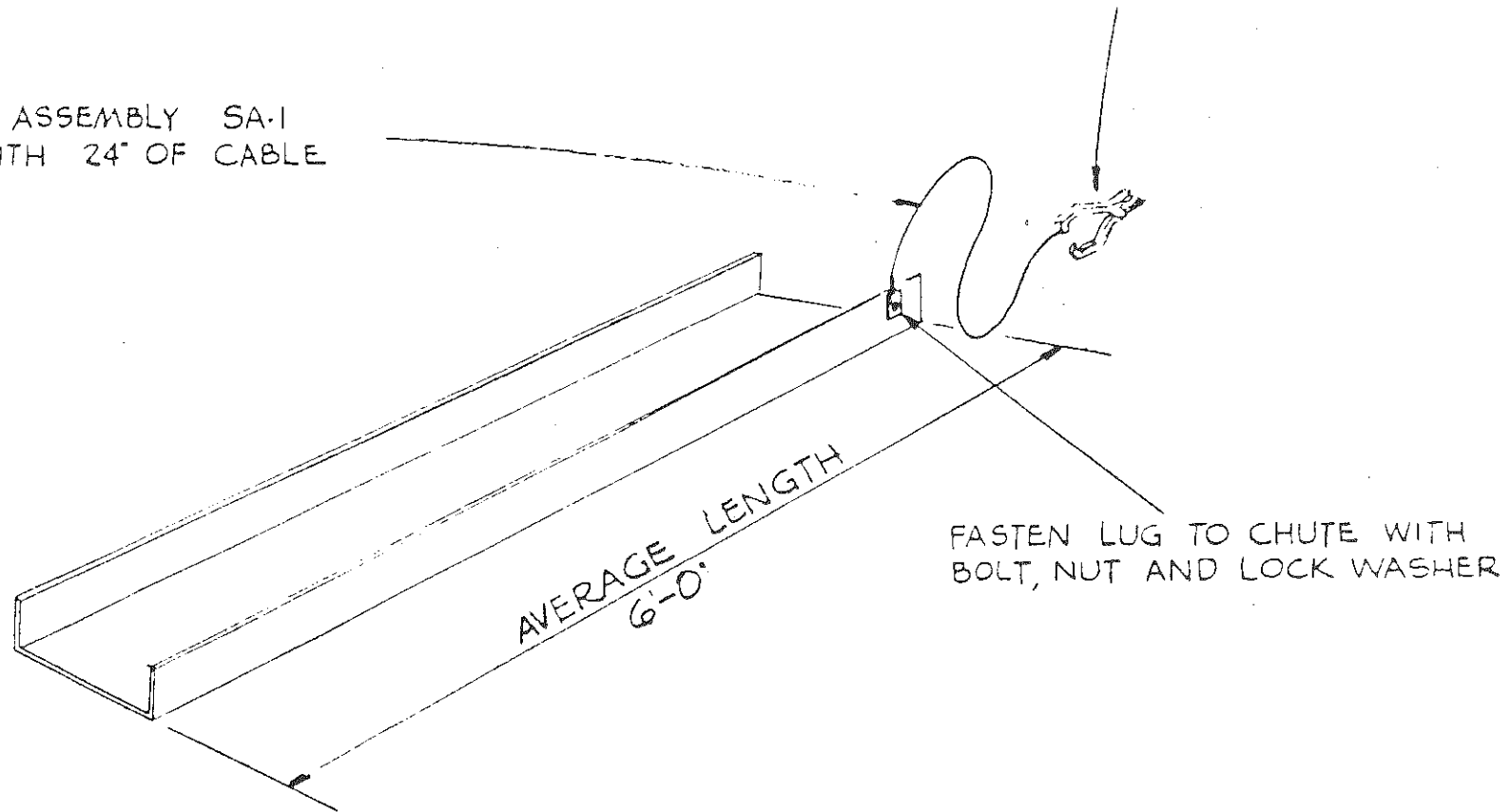
TYPICAL ARRANGEMENT OF STATIC GROUNDING
ON "VORTI-SIV" SCREENING MACHINE

TA-12

TYPICAL ARRANGEMENT NO. 12

FOR ATTACHMENT TO GROUNDING TAB
ON EQUIPMENT OR NEXT CHUTE

STANDARD ASSEMBLY SA-1
EXCEPT WITH 24" OF CABLE



FASTEN LUG TO CHUTE WITH
BOLT, NUT AND LOCK WASHER

AVERAGE LENGTH
6'-0"

ALWAYS TEST FOR GROUND CONTINUITY

TYPICAL ARRANGEMENT
GROUNDING OF PORTABLE "MATERIAL TRANSFER CHUTE"

TA-13

STANDARD ASSEMBLY NO. 13

NOTE ! IMPORTANT !
VERTICAL GROUNDING
ARRANGEMENT REQUIRED
FOR EACH PAIR OF DRUMS

FASTEN GROUND CABLE TO RACK WITH
ONE HOLE CONDUIT CLAMPS ON 2'-0" CG FRS

BUILDING GROUND BUS
STANDARD ASSEMBLY SA-11
TO ALL STORAGE RACKS

SA-6 TO BEAM CLAMP
ON LOWER DRUM

CLAMP TO DRUM "LID"
BEAM CLAMP, UNIVERSAL
INSULATOR SUPPORT
EAT. #500. FASTEN SA-3
AND SA-6 WITH 1/2-20 BOLT

SA-3 (LESS PIPE CLAMP)
TO BEAM CLAMP ON
UPPER DRUM

GROUNDING TAB
FOR CONNECTING
TA-1 & TA-2 CLAMPS
WHEN TRANSFERRING
SOLVENTS

FASTEN A SINGLE BUENDY
'SERVIT' CONNECTOR, TYPE
K5-CAT. NO. K5-15 AROUND
SA-3 & SA-6 CABLES

TA-1

ALWAYS TEST FOR
GROUND CONTINUITY

STANDARD
GAL. SOLVENT
ANCHOR PAIL
WITH CABLE & CLAMP
PERMANENTLY
FASTENED (TA-2)

TYPICAL ARRANGEMENT - FOR STANDARD STATIC GROUNDING
OF 55 GALLON DRUMS IN STORAGE RACK

TA-14

7-11-14

WIRE MESH (FIBERGLASS)
AIR DUCT (METAL-FABRIC)
HANGING FROM 4" x 4" LUGS
DUCT SYSTEM ABOVE EACH
BALL MILL CHARGING DOOR

METAL SPIRAL TO FABRIC
INTERLOCK SEAMS

SEE DETAIL "X"
ON TA-16

STANDARD SMALL GROUNDING
CLAMP ASSEMBLY (SA-1)

SLIPFIT

1" x 4" x 8" STEEL TAP
MOUNTED SECURELY TO
BALL MILL CHARGING FITTING
WITH MACH. BOLT, LOCKWASHER & NUT

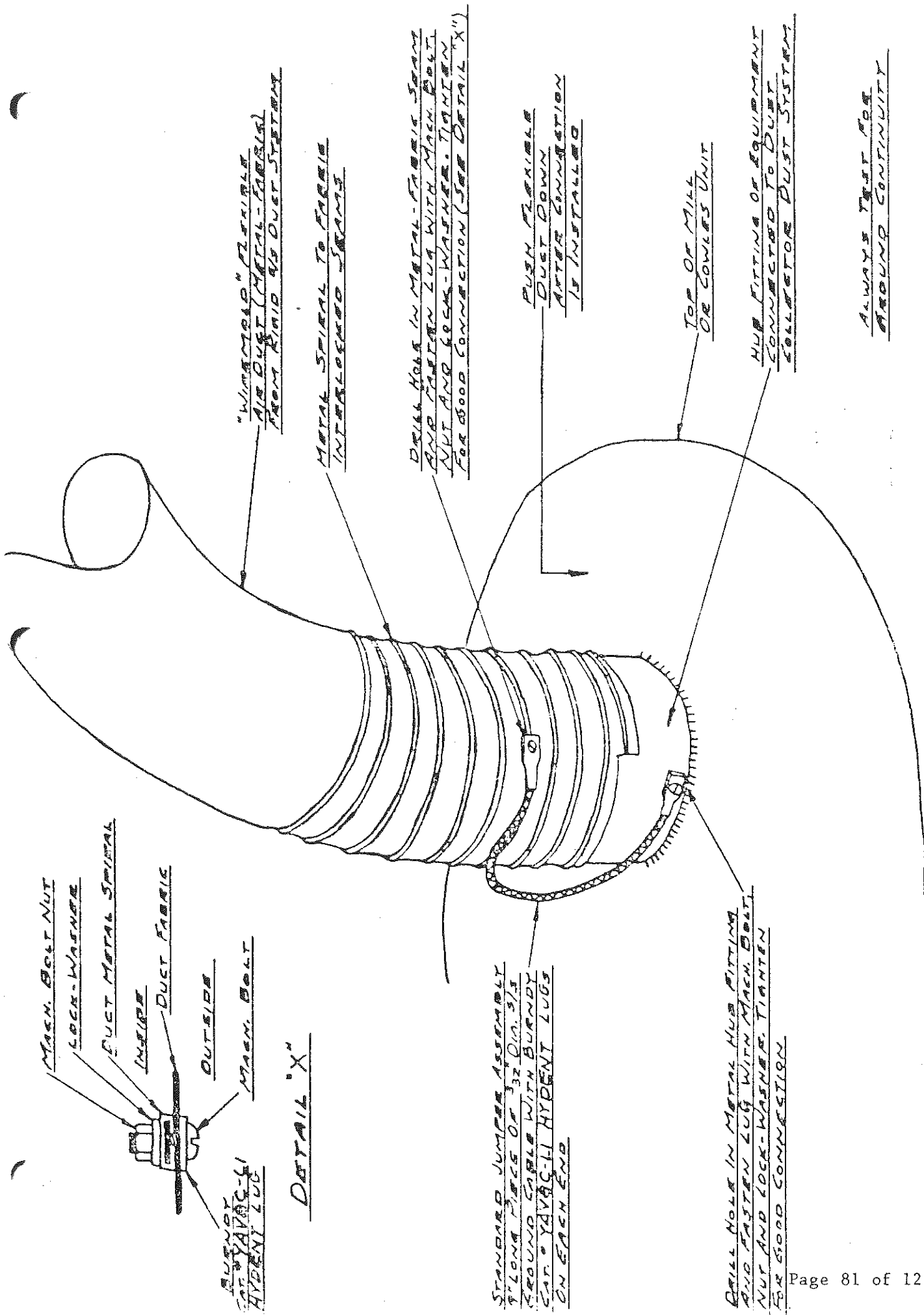
BALL MILL CHARGING
FITTING (PORTABLE)

ALWAYS TEST FOR
GROUND CONTINUITY

TA-15

TYPICAL ARRANGEMENT - FOR STANDARD GROUNDING
OF BALL MILL CHARGING FITTING

TYPICAL ARRANGEMENT No. 15



MACH. BOLT NUT
LOCK-WASHER
DUCT METAL SPIRAL
INSIDE
DUCT FABRIC
OUTSIDE
MACH. BOLT
BURNER CABLE YAVAC-II
BURNER LUG

DETAIL "X"

STANDARD JUMPER ASSEMBLY
1" LONG PIECE OF 3/2 O.D. 3/8
GROUND CABLE WITH BURNER
CABLE YAVAC-II HYPENT LUGS
ON EACH END

DRILL HOLE IN METAL HUB FITTING
AND FASTEN LUG WITH MACH. BOLT,
NUT AND LOCK-WASHER, TIGHTEN
FOR GOOD CONNECTION

ALWAYS TEST FOR
AROUND CONTINUITY

TA-16

CAL ARRANGEMENT - FOR STANDARD

STANDARD UNIT - 1000 WATT OR LARGER UNIT

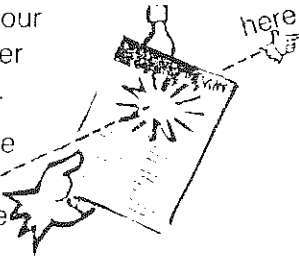
FIREFACTS FIGHT

—with Extinguishers

FIRE!

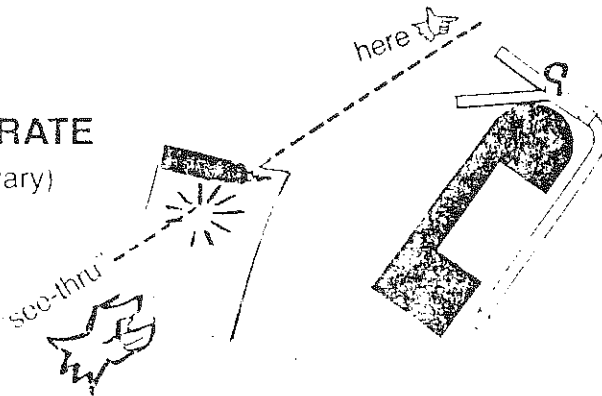
Here are your
extinguisher
reminders.

Hold this page
up to the light
"see-thru" message



HOW TO OPERATE

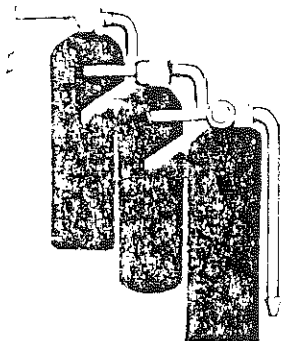
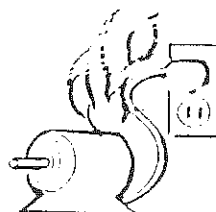
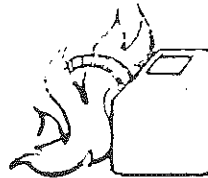
(label—some vary)



TEST YOURSELF—

Which extinguisher
did you use on each
of these fires?

answer



Get preplanned—fresh in mind—

- Know location.
- Know how to operate.
- Know "classes of fire"
on which to use extinguisher.

- 1. Pull** out pin
(or use other locking device).
- 2. Aim** nozzle at base of fire.
- 3. Squeeze** operating handle.
- 4. Sweep** side to side.

Fire "Classes"

ORDINARY
COMBUSTIBLES

Paper, cloth,
wood, rubber,
many plastics



FLAMMABLE
LIQUIDS

Gasoline, paints,
grease, kerosene,
solvents, oil, etc.



ELECTRICAL
EQUIPMENT

wiring, fuse box,
appliances, etc.



NEW

PICTOGRAMS*
may be on label.

These pictures:

—In blue show fire
"class" on which
to use extinguisher

In black with
red slash show
when NOT to
use extinguisher

*Recommended
NEPA 10 Standard
for Portable Fire
Extinguisher

FIRST—give the Alarm and get Emergency Plan into action. Then, if fire is still small—**FIGHT IT**—

Keep near an escape door.

Keep low—out of worst heat and smoke.

Get within about 6 feet to be effective for most.

Aim at base of fire. Sweep side to side.

Portable Fire Extinguishers are for *quick action* while a fire is still small, just beginning.

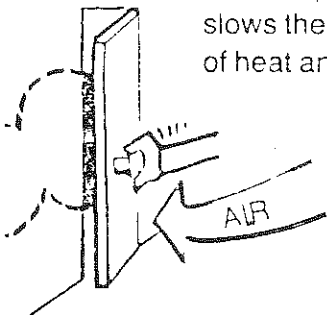


Quick action—right off—can extinguish or delay fire spread until help arrives



Portable extinguishers have but a few seconds (!) of concentrated extinguishing power. Make it count.

But remember—life safety always comes first. If fire gets larger GET OUT and close door behind you (shuts off air supply and slows the spread of heat and smoke).



After *any use*, extinguisher must be refilled!

Think now. Remind yourself about your fire extinguishers. Keep your mind *on alert* for quick action in case you face a fire emergency . . . !

FOR HOME USE

If buying **ONE**—get a Multi-purpose Dry Chemical Extinguisher—"ABC."

If buying more than one—consider "BC" Extinguisher (kitchen), "A" (general house), "ABC" (garage).



Extinguisher Types



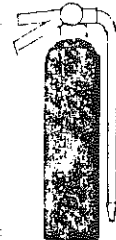
WATER

(cools, soaks)

- Pressure type
- Pump Tank



DO NOT use water stream on flammable liquid (splashes) or on live electrical fire (shock!).



DRY CHEMICAL (smothers)

- Regular



- Multi-purpose



CO₂ (smothers)



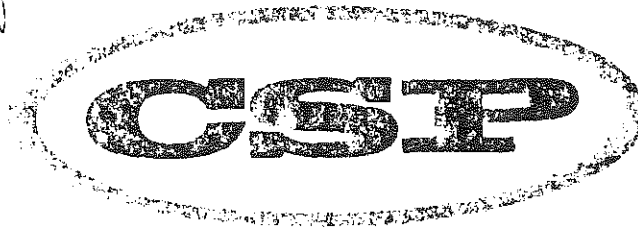
HALON

(chemical reaction)



- Certain Foam units are available for flammable liquid fires.
- Combustible Metal fires require ☆-labeled extinguishers.
- Invert-type extinguishers are no longer available (hazardous) including *soda-acid, foam, loaded stream* types.

Handwritten signature



CUSTOMER SERVICE PROGRAM

OPERATOR TRAINING

REVIEWS



HYSTER COMPANY

GENERAL PARTS AND SERVICE DEPARTMENT

Box 2902

Portland, Oregon

A PARTS AND SERVICE TRAINING RELEASE

Manufacturing in: Portland, Oregon • Danville, Illinois • Peoria, Illinois
Canada • Australia • Brazil • England • The Netherlands • Scotland

DISCUSSION QUESTIONS SET NUMBER 1

1. John, a new lift truck driver, was unacquainted with the layout of the plant. He drove down a narrow loading dock looking for a certain entrance, but came to a dead end. John stopped the truck and decided that by getting close to the wall he could turn the truck around, because lift trucks can turn sharply. Will he be able to turn on the narrow dock? Why or why not? How would you handle the situation?

ANSWER:

John is forgetting about tail-end swing. When he gets close to the wall and tries to turn, his truck will hit the wall. If he moves away from the wall, he will run off the edge of the dock. Obviously, the best answer to the situation is to back up until he finds a place wide enough to turn safely.

2. After lifting a load onto a stack, what could be a reason for the forks hanging up in the pallet when trying to back away from the stack?

ANSWER:

- Upright tilted back and tips of forks dragging in the pallet.*
- Wheels turned so forks are dragging on one side of the pallet.*
- Load not lowered far enough to completely release the forks.*

3. One day a safety man was walking through the plant and saw John carrying a load at an angle on the forks. Understanding the basic principle of a lift truck, the safety man knew the load should be back tight against the heel of the forks and carried squarely. He stopped John and asked him why he was carrying the load in an unsafe manner. John's foreman approached and agreed with the safety man. It looked as though John might lose his job. Could John have had a valid excuse?

ANSWER:

John could have been turning into a narrow stacking aisle and needed to have the load at an angle in order to place the load. However, he should not have been traveling through the plant with the load at an angle.

4. "Sometimes a load is very bulky and the operator's view is blocked. Under such circumstances, it is safer to raise the load high enough to see beneath it rather than risk running into someone or something." Should this statement appear in a safety booklet?

ANSWER:

The statement should not be in the booklet. Traveling with the load elevated for any reason is unexcusable. When a load is large enough to block his vision, the operator should travel in reverse.

5. A pallet stacked with odd shaped parts needed to be moved. John picked up the pallet, but when he tilted the upright back, a few parts fell off. Should John insist on tilting the upright back? Will John have to put the parts in a box in order to move them?

ANSWER:

The upright should be tilted back when lifting a load to prevent the load from sliding off the forks. But in this case, tilting the upright causes the parts to slide off the back of the pallet. John should lift the pallet with the upright vertical so that the load tilts neither forward nor backward. Tilting the upright back when carrying a load is an extra precaution. If the forks are at least horizontal, there is no danger of the load sliding off the forks.

6. John was told to stack loads four high in a warehouse, since all available space was needed. When he tried to put the fourth load on the stack, John discovered that the truck would not lift the load high enough. While he was attempting to solve this problem, John noticed that each load weighed 2,500 pounds, just half his truck's capacity. How do you suppose John solved his problem?

ANSWER:

John can stack the four loads by putting the third and fourth load up together. This is possible because each load weights half the capacity of the truck, therefore two loads can be lifted safely.

DISCUSSION QUESTIONS

SET NUMBER II

1. The load capacity of your truck is 5,000 pounds at a 24 inch load center.

The forks on your truck are 36 inches long. It is necessary for you to pick up a unit load of canned goods weighing 4,850 pounds. This load is 58 inches square. Thus, your forks will reach more than halfway under the load. Can your truck safely pick up this load?

ANSWER:

Do not be fooled by the fact that the weight of the load is within the capacity of the truck and that the forks will reach far enough under the load to pick it up. The load is 58 inches square. Thus, the center of the load is 29 inches, 5 inches greater than the maximum load center rating (24") for a 5,000 pound load. A check will reveal that the truck will only pick up a load weighing about 4,300 pounds with a 29" load center. The truck would be overloaded by 550 pounds.

2. While John was working hard one afternoon to finish a job, he noticed the truck's temperature gauge registered "hot." He stopped the truck to check the coolant level and found the radiator nearly empty. He filled the radiator with water and continued to work. Soon he noticed the truck was again hot. He stopped work a second time to check the water level and again the radiator was empty. John assumed that there must be a leak, so he filled the radiator and continue on with his work. Did John do the right thing?

ANSWER:

John was right to stop the truck when he noticed it was running hot. It could be justifiable for him to continue operating the truck after filling the radiator the first time. He should not have continued working after the second refill, however, because the quick loss of coolant indicated serious trouble. A leak is only one of the possible reasons for water loss. The head gasket may have been blown and water was leaking into the engine.

In this case, the truck should have been stopped immediately. John should have ceased operation and told his foreman of the trouble.

3. "Safety is a job for everyone, lift truck drivers and pedestrians alike. Lift truck drivers have many things to watch for while doing their job. For example, they must see that their truck is not overloaded; they must watch for obstacles that might cause them to overturn and they must watch their overhead clearance. While watching for these things, lift truck drivers cannot watch for pedestrians. Pedestrians must watch out for for themselves. That is the pedestrians job for safety." Should this statement appear in a safety booklet? Why or why not?

ANSWER:

Obviously, the statement should not be in a safety booklet. Safety is everyone's job, but it is not because everyone has to look out for himself. It is true that a driver has many safety rules to obey, and one of the most important ones is to watch out for other people.

4. "One way to save time during a stacking operation is to start raising the load before you get to the stack while still traveling. This is done by using the inching clutch so engine RPM can be increased to lift the load and still maintain a safe approaching speed. By the time you are up to the stack, the load is ready to be placed. Thus, a great amount of time is saved." One person wanted to include this statement in an operator's manual because he said it was common lift truck driving procedure. Another person said it should not be included because everyone knows you should not travel with a load more than 4-6" off the ground. Which person is right? Why?

ANSWER:

The statement could be included in an operator's manual. This practice is a common one and is not really contrary to safety practices. Usually the truck is moving at a greatly reduced speed because it is being "inched".

WRITTEN REVIEW NUMBER 1

1. Material Handling is the lifting, lowering, and moving of materials.
True _____ False _____
2. The fulcrum or pivot point of a lift truck is its _____.
3. The lighter counterweight will counterbalance a heavy load if the _____ is kept _____ to the load.
True _____ False _____
4. As load center increases, the weight handling capacity of the truck decreases.
True _____ False _____
5. A lift truck is suspended at _____ points. Lines of side support form a _____ with the points.
6. When the _____ arcs outside the lines of side support, the truck will tip over.
7. Backward tilt moves the combined center point of gravity closer to the rear wheels.
True _____ False _____
8. Gasoline engines differ from Diesel Engines in that the gasoline and air mixture is ignited by Compression.
True _____ False _____
9. Torque Converters provide _____ for automatic transmissions.
10. Hydraulic Cylinders can be _____ acting or _____ acting.
11. Hydraulic Cylinders can also be _____ type or _____ type.
12. Tires on lift trucks are usually one of three types. They are: 1) _____ 2) _____ 3) _____.
2. Material Handling costs are not important as all companies have items to move and store.
True _____ False _____
3. A Unit Load is any item or group of items fixed for mechanical handling.
True _____ False _____
4. Fork lift trucks make handling the Unit Load possible.
True _____ False _____
5. The fork lift truck is a device engineered and designed to load itself, to transport, stack or tier, and to unload itself.
True _____ False _____
6. Pick three (3) things needed in order to profitably use a fork lift truck.
 - (1) Unit Load
 - (2) Adequate Operating Conditions
 - (3) Qualified Operator
 - (4) Material Handling
 - (5) Boxcars
 - (6) Ramps
7. The Unit Load – Fork lift truck team lowers handling costs through:
 - (1) More efficient handling
 - (2) Better use of storage
 - (3) Reducing product damage
 - (4) Discouraging pilferage
 - (5) Better inventory control
True _____ False _____
8. The fork lift truck can always be used to handle anything, regardless of load rating.
True _____ False _____
9. The safety factor is built into a lift truck, not for overload purposes, but to give extra assurance to the operator that he can handle maximum rated loads in complete safety.
True _____ False _____

WRITTEN REVIEW NUMBER 2

1. Material Handling – A process incurred anytime an item is moved.
True _____ False _____
10. Center of gravity is important because of low c/g offers more stability at high lifts.
True _____ False _____

1. Rear wheel steering provides good maneuverability but also requires caution in that the operator must be constantly aware of "tail swing" in the leading steering wheel.

True _____ False _____

2. Stability is resistance to overturning. A lift truck operator must be continually aware of both forward and side stability. Side stability is critical when turning, particularly with the load lifted high or driving on a slope.

True _____ False _____

3. A lift truck should never be driven in reverse.

True _____ False _____

4. You, the operator, are responsible to your company and to your customers for the condition of merchandise you handle.

True _____ False _____

6. A good driver drives fast in order to get more work done in a day.

True _____ False _____

7. If it is necessary, a truck can be driven backwards.

True _____ False _____

8. All floors are safe for lift trucks because the law says they must be.

True _____ False _____

9. If your truck begins to make a peculiar noise, tell your foreman about it at the end of the shift.

True _____ False _____

10. It is a good idea to watch overhead clearance when working inside a truck or boxcar.

True _____ False _____

11. Other workers are responsible to keep in their own traffic lanes, and out of the way of lift trucks.

True _____ False _____

12. Racing the engine is a good way to quickly warm up a lift truck.

True _____ False _____

13. One of the Jobs of SafeGuard Maintenance is to increase the life of a lift truck.

True _____ False _____

14. A driver does not have to know about the mechanical operation of his truck because he is not supposed to do mechanical work on it.

True _____ False _____

15. Checking for safe brake operation is one of the daily checks an operator makes.

True _____ False _____

16. Describe in your own words what is SafeGuard Maintenance.

WRITTEN REVIEW NUMBER 3

1. It is all right to leave the engine running if you are only going to be gone a couple of minutes.

True _____ False _____

2. Other workers may stand nearby when you stack material.

True _____ False _____

3. Material can be stacked in an aisle or roadway if there is not enough space for it in regular storage space, and there is enough room left for trucks to get by.

True _____ False _____

4. It is not necessary to report slippery conditions in your driving area.

True _____ False _____

5. If something goes wrong with your truck, it should be reported to the foreman and the truck parked until further instructions.

True _____ False _____

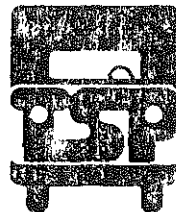
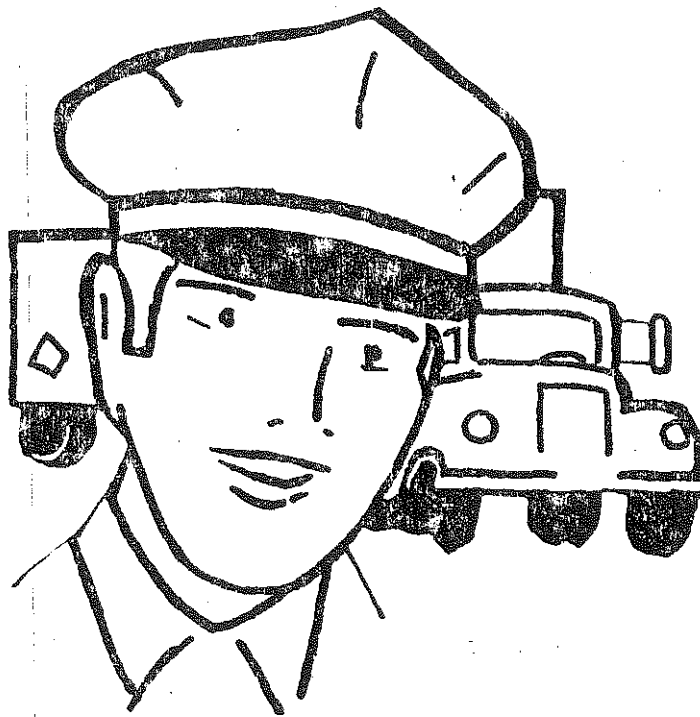
SPACE FOR ANSWER INSIDE BACK COVER

17. Outline the operator's responsibilities in a maintenance system.

SPACE FOR ANSWER INSIDE BACK COVER

THE FOLLOWING IS A COPY OF
A MANUAL GIVEN TO THE COMPANY
TRUCK DRIVERS WHO TRANSPORT
HAZARDOUS WASTE.

HAZARDOUS WASTE & THE DRIVER



HAZARDOUS WASTES & THE DRIVER

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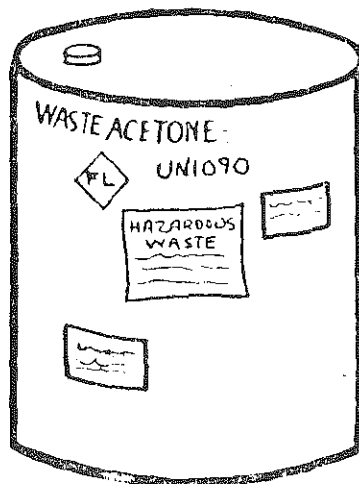
**Transportation Skills Program
320 West Main Street
Kutztown, Penna. 19530**

HAZARDOUS WASTES & THE DRIVER

For many years, drivers of motor vehicles transporting hazardous materials have been required to comply with Department of Transportation regulations in Title 49 of the Code of Federal Regulations, when loading, unloading and transporting hazardous materials. A major change took place in the regulation in February, 1978, when the Federal Motor Carrier Safety Regulations were incorporated into Part 177 - Carriage by Public Highway. This change means a driver found in violation of a safety regulations is now subject to the same rules that apply in the event of a hazardous materials regulations violations.

This change and additional regulations have made the driver's job more complex and demanding. As companies have instituted mandatory training programs to instruct drivers on the new DOT regulations, continued changes and amendments to the regulations have been made that make this training more difficult.

A driver's knowledge of the regulations is critical for a very important reason. The driver is the one person who interfaces between the carrier and the shipper. The driver must not only know what the carrier is required to do to comply, but must also know and understand what the shipper must do to comply. This has greatly complicated the driver's job. He must make certain the shipper offers a proper shipment, that it is properly identified, described and classified, that it is properly marked and labeled and in DOT specification packagings, and the shipping papers are in order. If the driver accepts a shipment that is in violation of the DOT regulations, the shipper and carrier both may be held liable for the violation. What is really required for the driver is a broad perspective of the hazardous materials regulations which will enable him to properly accept and transport shipments of hazardous materials.



Just at that point where most professional drivers have grasped and are diligently complying with the DOT regulations, a completely new series of regulations has been proposed and will become law in 1979. These additional regulations will require the driver to know, understand and comply with new procedures outlined in Title 40 of the Code of Federal Regulations for the Environmental Protection Agency. The regulations will cover the packaging, labeling, marking, offering, placarding, transporting and shipping papers for a new class of materials called "HAZARDOUS & TOXIC WASTES".

These are materials that meet the definition of a hazardous material under the DOT regulations or a material that meets the definition of a hazardous or toxic waste under EPA regulations. When a driver is accepting, loading, transporting and unloading these types of materials, he will be required to comply with new regulations that will appear in CFR 40 and 49. The new regulations will change the way we do business, primarily in the area of hazardous or toxic waste. We will examine the changes and the new regulations in this book.

When the new EPA and DOT regulations become law, every driver of a private, contract or common carrier's motor vehicle in intrastate or interstate transportation will be required to comply with them. But not just the driver - any person or company engaged in hazardous materials or hazardous and toxic waste commerce, trade or transportation will be required to comply with these new regulations.

Let's examine the driver's responsibilities.

Actually, the driver's job is more complex and requires the highest degree of "professionalism" because the driver must not only understand and comply with those parts of the DOT regulations in CFR 49, he must also understand and comply with the EPA regulations for hazardous and toxic wastes in CFR 40. The regulations will become a major concern to all carriers when they become law.

What is a hazardous or toxic waste?

Simply defined, any material which is garbage, refuse, discarded materials or wastes resulting from a manufacturing or processing operation and which poses a health hazard if unintentionally released into the environment is considered a hazardous or toxic waste. Such material may or may not be a hazardous materials as described in CFR 49, but if it meets the definition of a hazardous or toxic waste, it is regulated by both EPA and DOT.

The driver is in a particularly vulnerable position. He must know, understand and comply with both sets of regulations involving the carrier and be knowledgeable of those regulations with which the shipper must comply. The driver may not accept an improper shipment of hazardous materials or wastes. If he does, he is considered to be equally liable under the law. If the driver accepts and transports an improperly packaged, marked or labeled shipment, or accepts improper shipping papers, the carrier and the driver can be held equally liable for

any violations of the regulations including any punitive damages that may result from someone being injured or killed because of the shipment.

The DOT Hazardous Materials Regulations are covered in depth in the book "HAZARDOUS MATERIALS & THE DRIVER" and it is suggested you read it carefully to determine your responsibilities under the regulations. Now we will cover HAZARDOUS & TOXIC WASTES AND THE DRIVER.

It is important to remember that when a hazardous waste under EPA regulations is being offered for transportation, not only do the EPA regulations apply but the DOT regulations as well. The EPA regulations do not replace the DOT regulations, they are simply an addition to the hazardous materials regulations.

When a shipper offers a shipment of hazardous waste to a common, contract or private carrier there are five major areas that the driver must be concerned about even though they are the shipper's responsibility:

- SHIPPING CONTAINERS
- LABELS & MARKINGS
- HAZARDOUS WASTE MANIFEST
- PLACARDING
- LOADING & STOWING

Let's examine the container requirements first.

When a shipper or generator prepares and offers shipments of hazardous waste for transportation, he must comply with the following container requirements.

If hazardous waste containers are being offered to a common, contract or private carrier, the shipper must comply with several regulations based on how the containers are loaded, transported and unloaded. For example, in a hazardous waste shipment which will be loaded by the shipper and unloaded by the consignee, the shipper may re-use a DOT specification packaging for one trip for the material he is shipping. Let's use a specific. If a shipper receives ten drums of ACETONE in 17E-STC drums and, after emptying the drums, uses the ACETONE in his manufacturing operations, he could use these same drums to ship his hazardous waste - provided the shipper loads the drums in the motor vehicle and the consignee unloads them at the final destination. This would also be the case if the shipper were using his own vehicles for transportation.

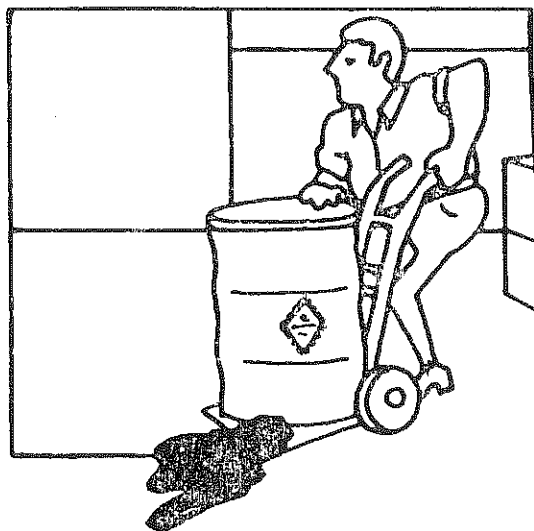
This is not the case where a shipment of hazardous waste will be offered to one carrier and interline with another carrier for transportation to the consignee. In offering a shipment which will interline or if offering in the air, water or rail mode, the shipper may not re-use an STC (single-trip-container) or NRC (non-reusable container) for hazardous waste. In these instances, the shipper must use new or reconditioned DOT specification containers if the material being offered for transportation meets the definition of a hazardous material and requires a DOT specification packaging.

If the shipper re-uses a STC or NRC container for the allowable one trip to the consignee, the shipper is required to fill the container with

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the hazardous waste and allow it to stand for a period of 24 hours before offering it for transportation. After the 24 hour period, the shipper must closely examine the container for any leaks. If the container cannot be securely closed or has any leaks, it may not be used to ship the hazardous waste. Remember, this only applies to a hazardous waste. A shipper may never reuse an STC or NRC container for a material that meets the definition of a hazardous material and is being offered for transportation to a customer or user. This only applies to hazardous and toxic wastes. If the hazardous materials being offered require a DOT specification packaging, it must be shipped according to the regulations.

Never accept or transport any container of hazardous waste or hazardous materials that are damaged or leaking.



When a driver accepts and transports a shipment of hazardous waste which is required to be packaged in new or reconditioned containers, the driver must make sure each container is marked with the DOT specification packaging number and markings. This would be printed, marked or embossed on each container. Containers that do not bear these markings cannot be accepted for transportation.

Now let's examine the label and marking requirements for hazardous wastes.

When studying the label and marking requirements, remember you are subject to two sets of regulations. EPA regulations for hazardous wastes in CFR 40 and DOT regulations for hazardous materials in CFR 49. To make it easier for shippers and carriers to comply, the new EPA regulations have been incorporated into CFR 49.

Let's look at the regulations.

All containers of hazardous waste require the shipper's (generator) name and address marked on each container. If the hazardous waste is being transported in a cargo tank truck, the shipper's name and address is not required on the unit. However, it may be required to be marked with the proper DOT shipping name. Specific hazardous materials and hazardous wastes that meet the definition of a hazardous material must have the proper DOT shipping name of the material on cargo tanks, portable tanks and tank cars. This can be determined by checking out the commodity in Part 173 of CFR 49.

When offering any type of container the shipper must mark and label a shipment of hazardous waste in the following manner:

1. The shipper's complete name and address. It also makes sense to include the telephone number in case of an emergency.
2. The proper DOT shipping name of the material as shown in section 172.101. This gets a little tricky here because we are dealing with two different kinds of materials. A hazardous material or a hazardous waste. For example, if the shipper were offering a material that meets the definition of a hazardous or toxic waste under EPA regulations but doesn't meet the definition of a hazardous material under DOT regulations, the shipper would use the proper DOT shipping name "HAZARDOUS WASTE n.o.s. ORM E". An additional requirement in using the proper name which is listed in section 172.101 is to include the DOT or EPA chemical or technical name of the material following or below the proper DOT shipping name.

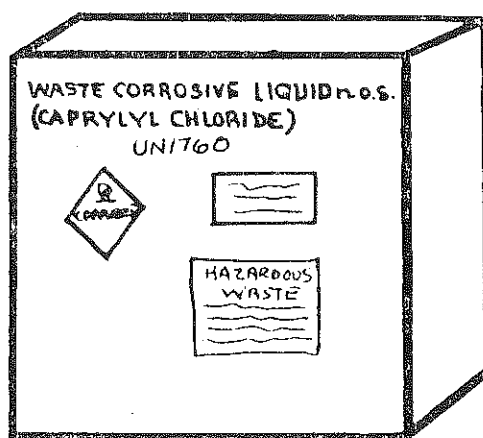
It is important to remember that any time a shipper uses any n.o.s. or "not otherwise specified" proper shipping name for a hazardous waste shipment (such as Flammable Liquid n.o.s., Poisonous Liquid n.o.s., or Corrosive Liquid n.o.s.), the shipper must always include the technical or chemical name of the material following or below the proper shipping name on the shipping papers and the containers. This is the case in all modes of transportation - highway, air, rail or water.

Let's take the example of two shipments of waste materials - one meeting the definition of a hazardous waste under EPA regulations and the other meeting the definition of a hazardous material under DOT regulations.

The shipment of an EPA hazardous waste would be 50 five gallon drums of a waste material containing ALOPERIDIN - a material that does not meet the definition of a hazardous material under DOT regulations. Therefore the shipper must mark each drum with the following information "HAZARDOUS WASTE, LIQUID (ALOPERIDIN) ORM E". This information would appear the same way on the shipping papers of the hazardous waste manifest, which we will cover later.

Now let's say the other waste was a Corrosive Liquid which contained the hazardous material - Caprylyl Chloride. When we check 172.101 we won't find Caprylyl Chloride in the hazardous materials table. Therefore, we would have to class the material as a Corrosive Liquid n.o.s. and mark each container with "WASTE CORROSIVE

LIQUID N.O.S. CAPRYLYL CHLORIDE" and affix the Corrosive DOT 4"x4" label. On the Hazardous Waste Manifest we would show the following: "WASTE CORROSIVE LIQUID N.O.S. (CAPRYLYL CHLORIDE) CORROSIVE MATERIAL."



Any time a shipper uses a n.o.s. or not otherwise specified name for a hazardous waste the shipper must always provide an EPA or DOT chemical or technical name for the waste material. And when a hazardous waste meets the definition of a hazardous materials and is listed in 172.101 under a proper DOT shipping name, always describe the material as a "waste" (Such as Waste Acetone, Waste Phosphoric Acid, Waste Nitric Acid.).

Now we'll examine the additional marking requirements for a hazardous waste which are required by both DOT and EPA. Unlike regular shipments of hazardous materials, a hazardous waste shipment requires more information on the container. This information may be stencilled, printed or labeled on each container of a hazardous waste. For our example we will use a label and include all the required information.

In addition to the Proper DOT Shipping Name, the DOT 4x4 label and the ORM designator and Identification number, the following information is required on each container.

First, the words "HAZARDOUS WASTE—FEDERAL LAW PROHIBITS IMPROPER DISPOSAL" and the additional warning . . . "IF FOUND CONTACT NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE US ENVIRONMENTAL PROTECTION AGENCY." This would be followed by the Generator's name and address.

HAZARDOUS WASTE	
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL	
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY	
GENERATOR'S NAME	MOSTELLER PAINT & CHEMICAL CO.
ADDRESS	BOYERTOWN STATE PA ZIP 19512
MANIFEST DOCUMENT NUMBER	# 7376
SHIPPING NAME	HAZARDOUS WASTE, LIQUID N.O.S. Alopurinol
DATE OF GENERATION ACCUMULATION	7/16/80
HANDLE WITH CARE - THIS CONTAINER IS DANGEROUS AND CONTAINS HAZARDOUS OR TOXIC WASTE	
IN THE EVENT OF A SPILL OR RELEASE - CONTACT THE U.S. COAST GUARD AT 800-424-8802 IMMEDIATELY FOR INFORMATION OR ASSISTANCE	
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The generator's EPA Identification code is optional. Next, add the number of the manifest used to cover the hazardous waste from the generator's facility to the TSD Facility. There is one additional information requirement, if the generator will consolidate or accumulate hazardous wastes over a period of time, prior to disposal. If this is the case, the Generator must also show the date of generation or the date accumulation started on the outside of each hazardous waste packaging.

If the waste is being classified under an n.o.s. or "not-otherwise-specified" DOT shipping name such as "WASTE FLAMMABLE LIQUID N.O.S.," "WASTE CORROSIVE LIQUID N.O.S.," "WASTE POISONOUS LIQUID N.O.S." or "WASTE OXIDIZER N.O.S.," and the waste meets the definition of another hazard class as a Flammable, Corrosive, Oxidizer or Poisonous, then the waste shipping name would also reflect the additional hazard class.

When this is complete, the shipment will be in compliance with the EPA regulations.

Now let's examine the requirements for labels and designators under DOT regulations.

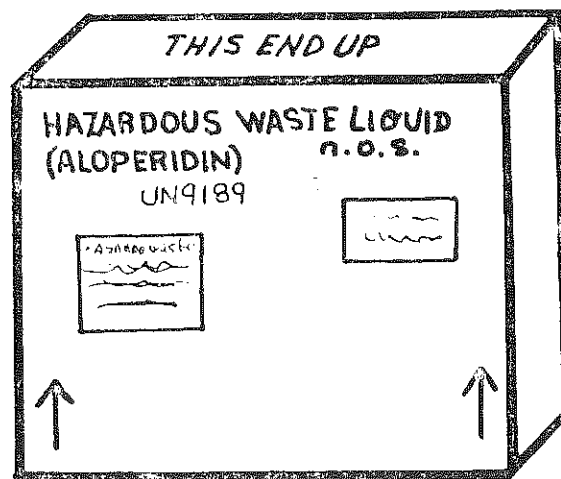
If the shipment of hazardous waste meets the definition of a hazardous material the class outlined in 172.171 determines the label required. For example, if the shipper offers a hazardous waste that

meets the definition of a flammable liquid, the flammable liquid label must be placed on each container. If the material didn't meet the definition of a hazardous material but did meet the definition of a hazardous waste the shipper must mark each container with the name "Hazardous Waste n.o.s." followed by the technical or chemical name of the materials and then add the designator "ORM E," which must be enclosed in a printed box.

Remember, the proper shipping name "Hazardous Waste n.o.s." may only be used when the material does not meet the definition of a hazardous materials. If the hazardous waste meets one or more of the definitions of a hazardous material as outlined in Part 173 of CFR 49, the proper shipping name "Hazardous Waste n.o.s." may not be used. In each instance, the material must be described under a proper DOT shipping name as it appears in 172.101 or under one of the n.o.s. (not otherwise specified) names such as Flammable Liquid n.o.s., Poisonous Liquid n.o.s. or Compressed Gas n.o.s. Again, when any n.o.s. name is used the EPA or DOT chemical or technical name of the material must appear on the shipping papers and the containers.

Some additional marking requirements to remember:

- When a shipper offers a shipment of liquid hazardous waste packaged in inside containers, the outside packaging must be marked with the words "this end up" or "this side up" to indicate the upward position of the inside containers.
- When a shipper offers a shipment of hazardous wastes which is covered by an "exemption", the exemption number must be stated as DOT - E followed by the exemption number. This must be shown on both the shipping papers and containers.



Now let's examine the shipping paper requirements.

Unlike a regular shipment of hazardous materials which allows the shipper and carrier many options in providing the required DOT information, a shipment of hazardous waste requires a document called the "Hazardous Waste Manifest". The information requirements are greater under the combined EPA/DOT regulations for a hazardous waste than for shipment of hazardous materials.

For example, a regular shipment of hazardous material may be provided on a shipping invoice, bill of lading, delivery order, manifest, pro bill, waybill or any other shipping paper the shipper or carrier elects to use. The required DOT information must be shown in one of the following ways:

1. All the hazardous materials entries are entered first.
2. If the hazardous material is not entered first, the shipping document may have a new column following the number of containers and before the proper shipping name marked HM. Whenever the hazardous materials appear with other non-hazardous materials, an "X" would be entered in the HM column in front of each shipment of hazardous materials wherever it appears other than as the first entry on the document.
3. If not shown in either of the previously covered ways, the shipper or carrier may enter the hazardous materials information in a contrasting color ink.
4. The shipper or carrier may take a highlighter pen and highlight each hazardous materials entry wherever it appears on the shipping paper. This method would be used on reproductions or copies of the shipping paper.

It is highly unlikely that shippers or carriers will be able to use current documentation or standard shipping papers, bills of lading or delivery orders for a shipment of hazardous waste simply because the information and certifications required by EPA will not be on current and available documentation. Shippers and carriers will require new Hazardous Waste Manifest and Hazardous Waste Delivery Orders to ensure compliance with the new EPA/DOT regulations.

Let's examine the requirements for the "Hazardous Waste Manifest" and determine shippers, carriers and consignees responsibility for information and certification.

First, each hazardous waste manifest or delivery bill used by the carrier must be numbered and, as mentioned before, that number must be marked on each container.

Next, the complete name, address and telephone number of the generator or shipper, in addition to the generator's EPA Identification Code Number.

The shipper is now required to enter the complete name, address and telephone number of the consignee of the "Permitted Treatment, Storage or Disposal Facility." And again, the consignee's EPA Identification Code Number. It is critical to remember that no person or company may accept a shipment of hazardous waste for treatment,

storage or disposal unless they have been certified as a "Permitted Treatment Storage or Disposal Facility" by EPA or a state designated agency.

Now the shipper must enter the information required by DOT and EPA on the actual material. Number and types of containers, Proper DOT Shipping Name, Hazard Class, Notations of "Limited quantity", labels required and affixed to the containers, any special "exemption" numbers and the gross volume of the shipment. The shipper may also include the National Motor Freight Classification name or number as a courtesy to the carrier for billing purposes, although this is not required by EPA or DOT.

If, for example, the shipper offers ten drums of a hazardous waste that meets the definition of a hazardous waste under EPA but does not meet the definition of a hazardous materials under DOT regulations, the hazardous waste manifest must show the information in the following manner:

1. The number and types of containers: "10 drums"
2. Proper DOT shipping name: Hazardous Waste, Liquid n.o.s.
3. Because an n.o.s. name is used, the chemical or technical name of the material, in this case: "Aloperidin"
4. The Proper Hazard Class: "ORM E" and the Identification number.
5. Labels required: "None"
6. The gross weight of the drums: "4850 Lbs."

ADDRESS		CITY		STATE		ZIP		PHONE	
THIS IS TO CERTIFY THE ACCEPTANCE OF THIS HAZARDOUS WASTE FOR TREATMENT STORAGE OR DISPOSAL									
SIGNATURE		DOT SHIPPING NAME OR EPA DESCRIPTION NAME		HAZARD CLASS		EXCEPTION OR EXEMPTION NO. OR LABELS REQUIRED		QUANTITY VOLUME	
10 DRUMS		HAZARDOUS WASTE, LIQUID, N.O.S. (ALOPERIDIN)		ORM E UN1090		NONE		4850 lbs	
EMERGENCY RESPONSE INFORMATION									
IN EMERGENCY CALL CHEMTREC 800 424 9300									

Next, the shipper is required to enter any pertinent emergency information and telephone numbers to call in case of an emergency. In the event the carrier requires assistance with a hazardous waste incident, the toll free number for CHEMTREC should also be included on the manifest.

Every location that handles hazardous materials or hazardous waste should have those telephone numbers available to personnel where they can get immediate information, in the event of the unintentional release of a hazardous waste or material. The number for CHEMTREC - 800-424-9300 - should be placed on all telephones in each location where hazardous wastes and materials are packaged, stored, loaded or unloaded.

Now enter the placarding information. While a shipper must provide placard information in the rail mode, placarding information is not required in the highway mode. However, it makes sense for each shipper to signify which placards are required when offering shipments of hazardous materials or waste, in the event the driver does not display the proper placards once they have been provided by the carrier. In the event of an accident, it might be difficult for the shipper to prove he gave the required placards to the driver at the time of offering the materials for transportation.

The shipper or generator must now enter any special handling information that will enable the carrier to handle the shipment more safely.

And the shipper must now certify the shipment meets all the requirements of the DOT and EPA.

The last piece of information the shipper must enter on the hazardous waste manifest is the name, address and EPA Identification Code number of the carrier or transporter. Again, each company or person involved with hazardous wastes must have an EPA identification code number which would appear on all documents. If the shipment were to interline with another carrier, the shipper would be required to provide the same information for the interline.

One of the major differences between a standard shipment of hazardous materials and a shipment of hazardous waste is that each person accepting a hazardous waste must certify his acceptance of the material. The shipper must certify the shipment is in compliance with the regulations, a carrier must certify that he is accepting the shipment for transportation and the consignee must certify that he is accepting a hazardous waste for treatment, storage or disposal. If the carrier delivered the shipment to an interlining carrier, the interlining carrier must also certify his acceptance of the hazardous waste.

Once a driver determines the containers are properly marked and labeled, the proper placards are displayed on his unit, the materials are properly stowed on his vehicle and the hazardous waste manifest is properly completed, the driver must follow these regulations:

1. All shipping documents for a hazardous materials or a hazardous waste must be within arm's length when the driver is in his vehicle.
2. If the driver leaves his vehicle unattended, the shipping papers must be placed on the driver's seat or in a pouch on the left hand door.
3. If all hazardous materials or hazardous waste shipping papers or manifests are not on the top of all other shipping papers, then the hazardous materials or waste shipping papers must be flagged or tagged wherever they appear in the pile.

These requirements are to protect any person coming into contact with the vehicle during an emergency. Emergency response personnel require specific information on the contents of any transportation unit in order to effectively and safely handle the emergency. Complying with these regulations will, in many cases, save time and possibly lives.

A generator or shipper must provide three copies of any hazardous waste manifest to the driver. If the shipment will interline with another carrier, the shipper must provide four copies of the manifest to the driver. Three copies of the manifest must always accompany every shipment of hazardous waste. When the carrier delivers the shipment of hazardous waste to the TSD facility, the consignee must be provided with two copies of the manifest. The TSD Facility keeps one copy for his files and the additional copy, retained by the consignee, is returned to the original shipper or generator.

All companies (shippers, carriers and consignees) involved with a shipment of hazardous waste must keep a copy of the hazardous waste manifest in their files for three years.

When the driver is making the delivery to the "permitted TSD Facility" he must have a responsible person certify the acceptance of the shipment for the consignee. If a situation develops where the driver cannot obtain a signature from the TSD facility, the driver must provide the reason why this could not be done, on the back of his copy of the hazardous waste manifest. The transporter is required by the regulations to get the required signature from the consignee within five days of the date of delivery.

If the carrier decides to use his own delivery documents rather than the hazardous waste manifest for delivery of the hazardous waste shipment, the same information and certifications are required on the delivery paper.

The "Hazardous Waste Manifest" will become the document required by the EPA and DOT to cover a hazardous waste from the "cradle to the grave" and will require each company involved in the shipment to certify that he has accepted a shipment of hazardous waste.

This new "shipping paper" requirement under DOT and EPA regulations will require drivers to pay complete attention to the regulations and to make sure they don't accept a shipment of hazardous waste that do not meet all the requirements of the regulations just covered.

Before we end, let's examine the placarding requirements for shipments of hazardous wastes.

If a shipment is classed as an ORM A, B, C, D or E, or if it being shipped under an exception, placards are not required. However, when a shipment is being treated as a hazardous materials, properly identified by a proper DOT shipping name in 172.101, all the DOT placarding regulations apply.

If a shipper offers any hazardous waste which meets the definition of a hazardous materials as shows in Table 1 in section 172.504, any amount of that material must be placarded and the shipper must provide the placards.

For example, if a shipper offering a hazardous waste shipment that meets the definition of a "POISON GAS" must provide placards and the carrier must display the placards for any amount of the material being transported.

If the shipper is offering a shipment of hazardous waste that meets the definition of a hazardous material as outlined in Table 2 in section 172.504 and the weight of the material exceeds 1000 lbs. or more, the shipper must provide and the carrier must display the proper placards. (for example...a flammable liquid), the shipper in this instance would be required to provide four Flammable placards.

If a generator or shipper is loading a carrier's unit spotted at the dock, the shipper must not only provide the required placards, he must also affix them to the unit when it meets the placarding requirements.

One last point on placarding. If a shipper offers a combination of hazardous wastes which meet the definition of hazardous materials outlined in Table 2 in 172.495, the "DANGEROUS" placard may not be used alone if one of the materials weighs 5000 pounds or more, being loaded at one facility or dock. DOT regulations require a shipper to provide and a carrier to display the specific placards for any material outlined in Table 2 when the weight of that material exceeds 5000 lbs. or more.

One last point. In 1980 the DOT regulations will be amended to require a shipping paper or hazardous waste manifest to show a description that identifies more than one hazard class, if the material being offered for transportation contains more than one hazard class, in certain categories. These new regulations would be:

1. If a shipment of hazardous materials or waste is classified as a material that is "water reactive" and the "Dangerous When Wet" label would be required on the packaging, then the shipping papers would require the additional notation "Water Active" entered in the description. For example, "Flammable Solid N.O.S. Flammable Solid—Water Reactive."
2. If a material is properly described under a proper n.o.s. or "Not Otherwise Specified" name, then the technical or chemical name of the material must be shown in parentheses after the proper shipping name. For example, Corrosive Liquid n.o.s. (Caprylyl Chloride) Corrosive UN1760 - Corrosive Material. However, if a material is a mixture of two or more hazardous materials and is being described under an n.o.s. name, the chemical or technical names of at least two of the hazards must be entered in the shipping description. For example, Flammable Liquid, Corrosive n.o.s. (Methyl Alcohol, Potassium Hydroxide) UN-2494 Corrosive Material.
3. If a hazardous material or waste is being described by a proper shipping name which does not describe the additional hazard class—POISON (Specifically any Flammable Liquid, Flammable Solid or Oxidizer), the basic description on the shipping paper or manifest must identify the Poison characteristic. For example Flammable Liquid, Poisonous UN1993 - Flammable Liquid.

These new regulations under EPA and DOT bring a new dimension to the driver's job. The driver must protect himself and his company against possible violations, fines and punitive damages by strictly complying with the regulations for hazardous materials and wastes. Understanding and complying with the EPA and DOT regulations is the mark of the "professional" driver.

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Closure Plan

CLOSURE PLAN

Red Spot Paint & Varnish Co, Inc. has no plans for closing its facility at 966 1/2 1016 E. Columbia St., Evansville, IN 47711. However, in the event this action should be taken the following program for hazardous wastes would be carried out:

1. Minimize the need for further maintenance necessary to protect human health and the environment.
2. Minimize or eliminate hazardous waste material on site.
3. Minimize or eliminate post closure escape of hazardous waste.

The company does not have any plans at this time or in the future to use surface impoundments, land treatment, land fills, incinerators, thermal treatment, biological treatment, or underground injection, at this site in administering its hazardous waste program.

Current practice is to store spent solvents (F003&F005) in drums prior to treatment by steam distillation. The still bottoms from the distillation process are stored in labeled and dated drums and accumulated for shipment to a permitted hazardous waste disposal site.

In the event of closure the spent solvents and still bottoms would be placed in drums with sufficient absorbent material to solidify, labeled, dated and shipped to a permitted hazardous waste disposal site.

Any pigments containing heavy metals would be returned to supplier or sold. The unsold pigments would be placed in labeled, dated drums for shipment to a permitted hazardous waste disposal site.

Any solvents that are not returned or sold would be handled in the same manner as spent solvents and still bottoms.

The still and dirty solvent blend tank would be drained and rinsed until free of hazardous material. The residue and rinse would be handled as spent solvents and still bottoms.

The tank used to contain the dirty water from equipment cleaning would be pumped out, rinsed until free of hazardous material. The residue and rinse would be solidified in drums, sealed, labeled and dated for shipment to a permitted hazardous waste disposal site.

The drums that had contained spent solvent would be deheaded, the sludge consolidated in drums, mixed with absorbent material until solidified, labeled, dated and shipped to permitted hazardous waste disposal site.

Since there is no landfill, surface impoundment or underground injection there is no need for post closure monitoring.

The following page gives a schedule of closure activities and cost estimates.

CLOSURE PLAN COST ESTIMATES

1. Inventory of Hazardous Materials	
Labor - 64 Man Hours @ \$11.00/hr.	\$ 704.00
Subtotal	\$ 704.00
2. Dismantling Solvent Reclaimer and Auxillary Equipment	
Decontamination of said Equipment and Piping	
Labor - 80 Man Hours @ \$11.00/hr.	\$ 880.00
Solvent - 500 Gals. @ \$1.00/Gal.	500.00
Disposal Drums - 14 @ \$18.50 each	259.00
Absorbant - 470 lbs. @ .12¢/lb.	56.00
Drumming Labor - 2.1 Drs./ Hour @ \$11.00/hr.	73.00
Drum Disposal Cost - \$38.00/drum	532.00
Drum Transportation Cost - \$13.00/drum	182.00
Subtotal	\$2482.00
Accummulative Total	\$3186.00
3. Decontamination of Dirty Water Tank	
Labor - 20 Man Hours @ \$11.00/hr.	\$ 242.00
Disposal Drums - 26 @ \$18.50 each	481.00
Absorbant - 970 lbs. @ .12¢/lb.	116.00
Drumming Labor - 2.1 Drs./Hour @ \$11.00/hr.	136.00
Drum Disposal Cost @ \$38.00/drum	988.00
Drum Transportation Cost @ \$13.00/drum	338.00
Subtotal	\$2301.00
Accummulative Total	\$5487.00
4. Disposal of 700 Drums of Spent Solvent	
Disposal Drums - 1040 @ \$18.50 each	\$ 19,240.00
Absorbant - 35,000 lbs. @ .12¢/lb.	4,200.00
Drumming Labor @ 2.1 Drs./Hour @ \$11.00/hr.	5,448.00
Drum Disposal @ \$38.00/drum	39,520.00
Drum Transportation @ \$13.00/drum	13,520.00
Subtotal	\$ 81,928.00
Accummulative Total	\$ 87,415.00
5. Clean Pigment Storage Area & Disposal of Heavy Metal Containing Pigments	
Clean-up Labor - 4 Man Hours @ \$11.00/hr.	44.00
Disposal Drum - 2 drs. @ \$18.50	37.00
Drumming Labor - 1 Man Hour @ \$11.00/hr.	11.00
Drum Disposal @ \$38.00/drum	76.00
Drum Transportation @ \$13.00/drum	26.00
Subtotal	\$ 194.00
Accummulative Total	\$ 87,609.00

6. Decontamination of Hazardous Waste Storage Area	
Removal of Earth to a Depth of 1 ft.	
Equipment Rental - \$110.00/day	\$ 220.00
Labor - 500 Man Hours @ \$11.00/hr	5,500.00
Disposal Drums - 1200 @ \$18.50	22,200.00
Drum Disposal @ \$38.00/drum	45,600.00
Drum Transportation @ \$13.00/drum	<u>15,600.00</u>
Subtotal	\$ 89,120.00
Accummulative Total	\$ 176,729.00
7. Administration and Contingency 25%	<u>\$ 44,180.00</u>
GRAND TOTAL	\$ 220,909.00

Estimated completion time 120 working days.

This closure plan is on file @ Red Spot Paint & Varnish Co. Production Facility and will be revised as needed to reflect process changes.

This plan was compiled during May, 1983 and the cost estimate will be adjusted annually using the Department of Commerce's Annual Implicit Price Deflator for gross national product.

Red Spot is a reputable and financially sound company with the resources to meet the financial responsibility requirements; however, the exact financial instruments to ensure closing costs have not been obtained at this time. Immediately upon obtaining said instruments and amendment will be filed with the U.S.E.P.A.

Financial Data

RED SPOT PAINT & VARNISH COMPANY, INC. AND SUBSIDIARIES

Consolidated Balance Sheet
(See Accountants' Review Report)

<u>ASSETS</u>	<u>October 31</u>	
	<u>1981</u>	<u>1980</u>
<u>CURRENT ASSETS:</u>		
Cash	\$ 199,677	\$ 194,638
Certificates of deposit plus accrued interest	10,173	635,172
Note receivable	---	27,282
Accounts receivable--trade	2,319,017	1,789,782
Inventories	3,883,142	3,367,980
Prepaid expenses	33,841	39,277
Total current assets	<u>6,445,850</u>	<u>6,054,131</u>
 <u>PROPERTY, PLANT AND EQUIPMENT:</u>		
Land and improvements	281,525	280,584
Buildings	2,211,103	2,192,380
Machinery and equipment	2,573,466	1,980,124
Furniture and fixtures	224,330	217,687
	<u>5,290,424</u>	<u>4,670,775</u>
Less: Accumulated depreciation	<u>2,572,452</u>	<u>2,195,054</u>
	<u>2,717,972</u>	<u>2,475,721</u>
 <u>OTHER ASSETS:</u>		
Note receivable	48,000	---
Cash surrender value of life insurance	127,676	107,013
Deferred expenses	1,184	1,376
	<u>176,860</u>	<u>108,389</u>
	<u>\$9,340,682</u>	<u>\$8,638,241</u>

See notes to consolidated financial statements.

LIABILITIES AND STOCKHOLDERS' EQUITY

	<u>October 31</u>	
	<u>1981</u>	<u>1980</u>
<u>CURRENT LIABILITIES:</u>		
Current portion of long-term debt	\$ 65,929	\$ 62,080
Note payable--bank	447,000	-----
Accounts payable--trade	537,197	514,970
Deferred federal income tax	64,246	144,627
Dividend payable	10,350	10,350
Accruals:		
Interest payable	20,956	-----
Payroll and bonus	642,986	596,016
Royalty and commission	43,603	-----
Pension	27,193	49,320
Sales tax	9,769	7,560
State, county and city taxes	160,761	104,964
Federal income tax	17,337	12,768
Total current liabilities	<u>2,047,327</u>	<u>1,502,655</u>
<u>LONG-TERM DEBT</u>	<u>866,254</u>	<u>891,461</u>
<u>DEFERRED FEDERAL INCOME TAX</u>	<u>315,014</u>	<u>326,920</u>
<u>DEFERRED COMPENSATION</u>	<u>200,041</u>	<u>144,476</u>
<u>STOCKHOLDERS' EQUITY:</u>		
Common stock--no par value:		
Authorized--5,000 shares		
Issued and outstanding--2,810 shares	140,500	140,500
Additional paid-in capital	33,975	33,975
Retained earnings--exhibit A	5,755,071	5,615,754
	<u>5,929,546</u>	<u>5,790,229</u>
Less: Treasury stock--at cost--50 shares	17,500	17,500
	<u>5,912,046</u>	<u>5,772,729</u>
	<u>\$9,340,682</u>	<u>\$8,638,241</u>

RED SPOT PAINT & VARNISH COMPANY, INC. AND SUBSIDIARIES

Consolidated Statement of Changes in Financial Position
(See Accountants' Review Report)

	Year Ended October 31	
	1981	1980
<u>SOURCE OF FUNDS:</u>		
From operations:		
Income before cumulative effect of a change		
in accounting principle	\$ 180,717	\$ 93,993
Charges (credits) not requiring or providing		
funds currently:		
Depreciation and amortization	438,665	370,190
Deferred federal income tax	(11,906)	376,642
Deferred compensation	55,565	56,825
Working capital provided by operations	663,041	897,650
Cumulative effect of change in accounting principle	---	599,761
Additional borrowings	41,265	---
Decrease in restricted construction funds	---	34,195
	<u>704,306</u>	<u>1,531,606</u>
<u>USE OF FUNDS:</u>		
Purchase of property and equipment	680,724	404,942
Reduction of long-term debt	66,472	62,080
Increase in cash value of life insurance	20,663	21,473
Dividends paid	41,400	50,084
Increase in notes receivable	48,000	---
	<u>857,259</u>	<u>538,579</u>
<u>INCREASE (DECREASE) IN WORKING CAPITAL</u>	<u>\$ (152,953)</u>	<u>\$ 993,027</u>
<u>CHANGES IN COMPONENTS OF WORKING CAPITAL:</u>		
Increase (decrease) in current assets:		
Cash	\$ 5,039	\$ 6,606
Certificates of deposit plus accrued interest	(624,999)	19,999
Note receivable	(27,282)	27,282
Accounts receivable--trade	529,235	(580,229)
Inventories	515,162	1,191,367
Prepaid expenses	(5,436)	(32,507)
	<u>391,719</u>	<u>632,518</u>
(Increase) decrease in current liabilities:		
Current portion of long-term debt	(3,849)	(1,424)
Notes payable--bank	(447,000)	---
Accounts payable--trade	(22,227)	91,543
Deferred federal income tax	80,381	(73,515)
Dividend payable	---	(10,350)
Accrued expenses	(151,977)	354,255
	<u>(544,672)</u>	<u>360,509</u>
<u>INCREASE (DECREASE) IN WORKING CAPITAL</u>	<u>\$ (152,953)</u>	<u>\$ 993,027</u>

See notes to consolidated financial statements.

RED SPOT PAINT & VARNISH COMPANY, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements
(See Accountants' Review Report)

NOTE 1--SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

GENERAL: The Corporation operates a paint manufacturing facility and retail stores.

PRINCIPLES OF CONSOLIDATION: The consolidated financial statements include the accounts of all wholly-owned subsidiaries after elimination of all significant intercompany accounts and transactions.

The following is a listing of the companies included in the consolidated financial statements:

Red Spot Paint & Varnish Company, Inc.
Subsidiaries:
Owensboro Paint & Glass Company
Red Spot Paint & Glass Company

BAD DEBT EXPENSE: The direct charge-off method is used to account for losses in collection of accounts receivable. An allowance for uncollectible accounts receivable is considered unnecessary by management because all significant accounts expected to be uncollectible have been written off. Bad debts expense consists of accounts written off, net of recoveries.

INVENTORIES: Inventories are valued at the lower of cost (first-in, first-out method) or market.

PROPERTY, PLANT, EQUIPMENT AND DEPRECIATION: The Corporation's investments in property, plant and equipment are carried at cost. The Corporation provides for depreciation using primarily the declining-balance method over estimated useful lives as follows:

	<u>Years</u>
Land improvements	15
Buildings	20-50
Machinery and equipment	5-12
Furniture and fixtures	10-14

When properties are retired, or otherwise disposed of, the related cost and accumulated depreciation are removed from the respective accounts, and any profit or loss on disposition is charged or credited to income. Maintenance and repair costs are charged to expense as incurred, and renewals and improvements are added to plant and equipment accounts.

TAX CREDITS: Investment credit, foreign tax credit and research and experimentation credit are accounted for under the "flow-through" method as a reduction of federal income tax expense in the year the credits are utilized.

NET INCOME PER SHARE: Net income per share of common stock is determined by dividing the net income by the number of shares of common stock outstanding. The average number of common shares used to compute net income per share was 2,760 in 1981 and 1980.

PENSION PLANS: Substantially all of the Corporation's employees are covered under the Corporation's insured retirement pension plan or under a union sponsored plan to which the Corporation contributes. It is the Corporation's policy to fund pension costs accrued.

RESEARCH AND DEVELOPMENT COSTS: Research and development costs are charged to income as incurred. The research and development costs incurred during 1981 and 1980 were \$724,910 and \$611,880.

NOTE 2--CHANGE IN ACCOUNTING PRINCIPLE:

Effective November 1, 1979, the Corporation adopted new methods of determining obsolescence and pricing in valuing its raw material and finished goods inventories.

The new method defines obsolete inventories (valued at their scrap value) as items with no market. In prior years, these inventories were reduced by an obsolescence factor. Also, under the old method, the inventories were reduced by a discount factor; whereas under the new method, the inventories are not reduced by the discount factor. The Corporation adopted these new inventory valuation methods to more accurately reflect the results of operations and financial position.

The effect of this change increased November 1, 1979 inventories \$1,110,669. The cumulative effect, net of federal income taxes of \$510,908, increased 1980 income by \$599,761.

NOTE 3--INCOME TAX EXPENSE:

The components of income tax expense (credit) are as follows:

	<u>1981</u>	<u>1980</u>
Federal:		
Current	\$174,274	\$ 48,973
Less:		
Investment tax credit	42,519	26,527
Research and experimentation credit	28,979	---
Income tax effect of foreign tax credit	9,707	10,023
	<u>93,069</u>	<u>12,423</u>
Deferred	(92,287)	(60,751)
State	<u>16,954</u>	<u>14,093</u>
	<u>\$ 17,736</u>	<u>\$(34,235)</u>

Deferred federal income taxes are due to timing differences between earnings for financial reporting purposes and income tax purposes. The differences relate to the following:

- (a) Deferred compensation plans as described in note 7.
- (b) The change in inventory valuation for tax purposes is included in taxable income ratably over a ten-year period beginning with 1980. For book purposes, the cumulative effect of the change was recorded in 1980.

The Accelerated Cost Recovery System (ACRS) as provided in the Economic Recovery Tax Act of 1981 is used for income tax purposes for depreciable property placed in service after 1980. Because the useful lives of the assets for depreciation purposes are considered to be substantially the same as the periods provided in ACRS, the cost recovery amount under ACRS is used for financial reporting purposes and, consequently, there are no timing differences which would require recognition of deferred income taxes.

NOTE 4--INVENTORIES:

Inventories are summarized as follows:

	<u>October 31</u>	
	<u>1981</u>	<u>1980</u>
Raw materials	\$1,338,639	\$1,280,398
Finished goods	<u>2,544,503</u>	<u>2,087,582</u>
	<u>\$3,883,142</u>	<u>\$3,367,980</u>

NOTE 5--LONG-TERM DEBT:

Long-term debt consisted of the following:

	October 31	
	1981	1980
Obligation under lease agreements	\$820,000	\$855,000
First mortgage note payable to Old National Bank of Evansville, Indiana, due in monthly installments of \$1,902.21 to April 2, 1984, including interest at 4 3/4% (secured by buildings and additions)	51,923	71,768
First mortgage note payable to Old National Bank of Evansville, Indiana, due in monthly installments of \$744.79 to April 2, 1984, including interest of 7 1/4% (secured by building and additions)	19,539	26,773
Installment promissory note payable to George Koch Sons, Inc. of Evansville, Indiana, due in monthly installments of \$592.03 to August 25, 1991, including interest at 12% (unsecured)	40,721	---
	<u>932,183</u>	<u>953,541</u>
Less: Current portion of long-term debt	<u>65,929</u>	<u>62,080</u>
Total long-term debt	<u>\$866,254</u>	<u>\$891,461</u>

The aggregate maturities of the above debt for the four years after October 31, 1981 are as follows:

Years ending:	
1983	\$ 72,821
1984	55,674
1985	43,354
1986	43,779

NOTE 6--LEASES:

The Corporation leases land, buildings and equipment financed by 6 1/2-7% Economic Development Revenue Bonds for use as a retail paint and varnish facility and a factory warehouse.

The following is an analysis of the leased property under capital leases by major classes:

	Asset Balances at October 31	
	1981	1980
Land	\$110,750	\$110,750
Buildings	727,764	724,256
Equipment	110,273	113,806
	<u>948,787</u>	<u>948,812</u>
Less: Accumulated amortization	<u>159,434</u>	<u>101,786</u>
	<u>\$789,353</u>	<u>\$847,026</u>

The following is a schedule by years of future minimum lease payments under capital leases together with the present value of the net minimum lease payments as of October 31, 1981:

	<u>Amount</u>
1982	\$ 90,225
1983	92,662
1984	89,937
1985	87,213
1986	84,488
Thereafter	916,959
Total minimum lease payments	1,361,484
Less: Amount representing interest	<u>541,484</u>
Present value of net minimum lease payments	<u>\$ 820,000</u>

The final payment is due in 1999.

NOTE 7--DEFERRED COMPENSATION AGREEMENTS:

The Corporation has deferred compensation agreements with certain key executives. The agreements provide for annual payments ranging from \$2,500 to \$35,000 per year for 10 to 26 years certain beginning when the executive reaches the age of 65. The agreements provide that if employment is terminated, including death or disability, the amount of deferred compensation would be reduced.

The deferred compensation expense for the year ended October 31, 1981, was \$55,565 which is the present value of the retirement benefits computed at the balance sheet date. These plans do not qualify under the Internal Revenue Code and, therefore, tax deductions are allowable only when benefits are paid. Appropriate provision has been made for deferred taxes associated with the deferred compensation liability.

The Corporation has insured the lives of these executives for amounts sufficient to discharge its obligations thereunder.

NOTE 8--PENSION PLANS:

Total pension expense under the Corporation's defined-benefit pension plans was \$27,193 in 1981 and \$49,320 in 1980. Accumulated plan benefit information, as estimated by the Corporation's consulting actuary, and net assets as of July 1, 1981 (date of most recent actuarial valuation) are:

Actuarial present value of accumulated plan benefits:	
Vested	\$487,294
Nonvested	<u>86,304</u>
Total	<u>\$573,598</u>
Net assets available for plan benefits	<u>\$623,871</u>

The accumulated plan benefit information for 1980 is not available. The assumed rate of return used in determining the actuarial present value of accumulated plan benefits was 6 1/2% for 1981 and 5 1/2% for 1980.

The decrease in pension expense from 1980 to 1981 was due to the increased assumed rate of return and rate credits.

The Corporation also made contributions to a collectively bargained, multi-employer defined-benefit pension plan in accordance with provisions of labor contracts. Information from the plan's administrator is not available to permit the Corporation to determine its share of unfunded vested benefits.

NOTE 9--RECLASSIFICATION:

Certain amounts in the 1980 consolidated financial statements have been reclassified to conform with classifications used in 1981.

Certificate of Insurance

acord

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER.
THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

NAME AND ADDRESS OF AGENCY

ASHBY RAUSCHER AGENCY, INC.
P O Box 717
Evansville, Ind 47705

NAME AND ADDRESS OF INSURED

RED SPOT PAINT & VARNISH CO., INC.
P O Box 418
Evansville, Ind 47703

COMPANIES AFFORDING COVERAGES

COMPANY LETTER	A	INSURANCE CO. OF N. AMERICA
COMPANY LETTER	B	
COMPANY LETTER	C	
COMPANY LETTER	D	
COMPANY LETTER	E	

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	POLICY EXPIRATION DATE	Limits of Liability in Thousands (000)		
					EACH OCCURRENCE	AGGREGATE
A	GENERAL LIABILITY	AGP DO 50 22 74 5	11/1/84	BODILY INJURY	\$ 500	\$ 500
	<input checked="" type="checkbox"/> COMPREHENSIVE FORM			PROPERTY DAMAGE	\$ 500	\$ 500
	<input checked="" type="checkbox"/> PREMISES-OPERATIONS					
	<input type="checkbox"/> EXPLOSION AND COLLAPSE HAZARD					
	<input type="checkbox"/> UNDERGROUND HAZARD					
	<input checked="" type="checkbox"/> PRODUCTS COMPLETED OPERATIONS HAZARD					
	<input checked="" type="checkbox"/> CONTRACTUAL INSURANCE			BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$	\$
	<input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE					
	<input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS					
	<input checked="" type="checkbox"/> PERSONAL INJURY					
				PERSONAL INJURY		\$
	AUTOMOBILE LIABILITY			BODILY INJURY (EACH PERSON)	\$	
	<input type="checkbox"/> COMPREHENSIVE FORM			BODILY INJURY (EACH ACCIDENT)	\$	
	<input type="checkbox"/> OWNED			PROPERTY DAMAGE	\$	
	<input type="checkbox"/> HIRE			BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$	
	<input type="checkbox"/> NON-OWNED					
A	EXCESS LIABILITY	XBC 50 68 73	11/1/83	BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 5,000	\$ 5,000
	<input checked="" type="checkbox"/> UMBRELLA FORM					
	<input type="checkbox"/> OTHER THAN UMBRELLA FORM					
	WORKERS' COMPENSATION and EMPLOYERS' LIABILITY			STATUTORY		
					\$	(EACH ACCIDENT)
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES

Pollution Coverage for sudden & accidental occurrence only.

Cancellation: Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 10 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

NAME AND ADDRESS OF CERTIFICATE HOLDER

Indiana Environmental Protection Agency
Indianapolis, Indiana

DATE ISSUED: **2/24/83**

[Signature]
AUTHORIZED REPRESENTATIVE

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This appendix contains samples of logs used at Red Spot for hazardous waste and hazardous waste training. Complete logs are on file at the Production Facility of Red Spot Paint & Varnish Co.

HAZARDOUS WASTE INSPECTION LOG

INSPECTOR Bill MartinDATE 8-25-83 TIME 8:30 AMPAGE 1 OF 2

AREA	STATUS	PROBLEM	CORRECTIVE ACTION	
			BY	DATE
FACILITY FENCE				
Gates	OIL			
Locks	OIL			
Woven Wire Damage	OIL			
Barbed Wire Damage	OIL			
FIRE EXTINGUISHERS				
Fully Charged				
Seal Broken				
Access Blocked				
Other				
CONTAINERS				
Aisle Space	OIL			
Sealed Drum	OIL			
Leakers	OIL			
Labels	OIL			

AREA	STATUS	PROBLEM	CORRECTIVE ACTION		
			BY	DATE	
DIKE					
Breaks or Cracks	OIC				
Accumulated Liquid	OIC				
Debris	OIC				
GROUND WIRES					
Broken Clamps	OIC				
Broken Wire	OIC				
Other	OIC				
SPILL CONTROL MATERIALS					
Absorbent	OIC				
Shovel	OIC				
Squeegee	OIC				
Container	OIC				
SIGNS	OK	1 sign on ground			
In Place	OK				
Legible	OK				

HAZARDOUS WA. INVENTORY

DATE 8-5-83

WASTE STREAM	AWAITING TREATMENT			TREATED		TRANSPORTATION		
	TO RECLAIM	TO SOLIDIFY	TO CON-SOLIDATE	RECLAIMED	SOLIDIFIED	READY	SHIPPED	SITE
DIRTY WASH-UP SOLVENT	792	0	-----	0	150	792		1
DIRTY WASH-UP WATER	0	0	-----	0	0	0		
FILTERS & OTHER SOLID WASTE	0	0	-----	0	0	0		
EMPTY DRUMS WITH SLUDGE	-----	-----	304	0	0	150		
CONSOLIDATED SLUDGE	-----	-----	-----	-----	150	150		
STILL BOTTOMS	-----	-----	-----	-----	-----	92		
TOTALS THIS PAGE	792	0	304	0	150	792		
PREVIOUS INVENTORY TOTAL	—	0	—		—	—		
NET GAIN/(LOSS)	—	0	—		150	—		
E.T.D. TOTAL	792	0	304		150	792		

Still Room

HAZARDOUS WASTE TANK INSPECTION LOG

Don Hertel

DATE	ITEM	STATUS	PROBLEM	CORRECTIVE ACTION	
				DATE	BY
8 1 22 1 83	GROUND WIRES	✓			
	PUMPS	✓			
	VALVES	✓			
	GASKETS	✓			
	PIPING	✓			
8 1 23 1 83	GROUND WIRES	✓			
	PUMPS	✓			
	VALVES	✓			
	GASKETS	✓			
	PIPING	✓			
8 1 24 1 83	GROUND WIRES	✓			
	PUMPS	✓			
	VALVES	✓			
	GASKETS	✓			
	PIPING	✓			
8 1 25 1 83	GROUND WIRES	✓			
	PUMPS	✓			
	VALVES	✓			
	GASKETS	✓			
	PIPING	✓			
8 1 26 1 83	GROUND WIRES	✓			
	PUMPS	✓			
	VALVES	✓			
	GASKETS	✓			
	PIPING	✓			
	GROUND WIRES				
	PUMPS				
	VALVES				
	GASKETS				
	PI				

Those in attendance at the RCRA Orientation Meeting 12 April 83.

Memo

Jim [unclear]

Charles D. Storms

Ronald J. Hottel

William R. Martin

E. B. King

5/5/83

HAZARDOUS WASTE PROCEDURES

TRAINING SEMINAR

- 1 Richard Fasten
- 2 Richard Kernaugh
- 3 Jim Martin
- 4 Wilfred Kohlmeier
- 5 Jeffrey H. Meyer
- 6 Ronald J. Heitel